PB-230 715

# POLLUTION OF LAKE SUPERIOR AND ITS TRIBUTARY BASIN - MINNESOTA-WISCONSIN-MICHIGAN. PROCEEDINGS OF CONFERENCE, THIRD MEETING OF THE SECOND SESSION (RECONVENED) HELD AT DULUTH, MINNESOTA ON APRIL 22-23, 1971

Environmental Protection Agency
Washington, D. C.

1971

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# PROCEEDINGS

LAKE SUPERIOR
MINNESOTA
MICHIGAN
WISCONSIN

Third Meeting of the
Second Session (Reconvened)
Duluth, Minnesota
April 22-23, 1971

# CONFERENCE

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## In the Matter of Pollution of Lake Superior and its Tributary Basin-Minnesota-Wisconsin-Michigan

ENVIRONMENTAL PROTECTION AGENCY

# THIRD MEETING
# OF THE
# SECOND SESSION (RECONVENED)
# OF THE
# CONFERENCE
# IN THE MATTER OF POLLUTION OF LAKE SUPERIOR
# AND ITS TRIBUTARY BASIN
# IN THE STATES OF MINNESOTA, WISCONSIN, AND MICHIGAN

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April 22, 23, 1971

TRANSCRIPT OF PROCEEDINGS

528

# ERRATA SHEET

to

Proceedings of the Conference in the Matter of Pollution of Lake Superior and its Tributary Basin - Minnesota, Wisconsin, Michigan. Third Meeting of the 2d Session (Reconvened), held at Duluth, Minnesota, April 22-23, 1971.

P. 413 mentions Attachments A and B which follow. These attachments should not appear at that point in the conference proceedings. No attachments belong at pp. 414-416.

The same Attachments A and B, supplementary to the "Lake Superior Enforcement Conference Technical Committee Report on Taconite Tailings Disposal," correctly appear at pp. 29-31.

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## EXHIBITS

1. "Reserve Mining Company's Response to Inquiry from the Lake Superior Enforcement Conference Technical Committee" (See p. 33)

2. Wisconsin Department of Natural Resources - Study from Summer, 1968 (See p. 310)

These exhibits are on file at Hq. EPA, Washington, D.C. and Region V, Chicago, Illinois.

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## PROCEEDINGS

## OPENING STATEMENT

## BY

## MR. DAVID D. DOMINICK

MR. DOMINICK: I'd like to welcome you all, ladies and gentlemen, to the Lake Superior Enforcement Conference.

I understand we have a number of high school students in the audience. Is that from Ashland High School, is that correct?

Very good. Glad to have you here on the Second Annual Earth Day.

I also understand that we have a number of citizens from Silver Bay here, and we welcome you.

The conference is hereby officially opened.

This second session of the conference in the matter of pollution of Lake Superior and its Tributary Basin in the States of Minnesota, Wisconsin and Michigan has been reconvened under the provisions of Section 10 of the Federal Water Pollution Control Act. The first session of this conference was held on May 13-15, 1969, and the conferees met in executive session on September 30 and October 1, 1969.

The second session met on April 29 and 30 of 1970 and met again on August 12 and 13 of 1970.

The conference again met on January 14 and 15 of 1971.

Both the State and Federal Governments have responsibilities in dealing with water pollution control problems. The Federal Water Pollution Control Act declares the States have primary rights and responsibilities for taking action to abate and control pollution. Consistent with this, we are charged by law to encourage the States in these activities. At the same time the Administrator of the Environmental Protection Agency is charged by law with specific responsibilities in the field of water pollution control in connection with pollution of interstate and navigable waters. The Federal Water Pollution Control Act provides that pollution of interstate or navigable waters endangers the health or welfare of any persons shall be subject to abatement. This applies whether the matter causing or contributing to the pollution is discharged directly into such waters or reaches such water after discharge into a tributary.

The purpose of this conference is to bring together the State water pollution control agencies, representatives of the Environmental Protection Agency and other interested parties to review the existing situation and the progress which has been made, to lay a basis for future action by all parties concerned, and to give the States, localities and industries an opportunity to take additional and indicated remedial action under State and local law.

At the January 14-15, 1971 conference session, a plan was submitted by Reserve Mining Company for the disposal of the taconite tailings in Lake Superior. The conferees did not endorse any method of disposal at the last session, but established a Technical Committee to evaluate Reserve's plan and to consider land disposal methods as well. The Committee was to complete its work within 45 days. This was done, and the conference today will consider the report of the Technical Committee.

At this point in time I would like to have the conferees introduce themselves, starting on my left, on your right, down at the end of the table, will you please identify yourselves and the agencies which you represent.

MR. FROST: Francis B. Frost, Chief Engineer, Michigan Water Resources Commission.

MR. WISNIEWSKI: Theodore Wisniewski of the Wisconsin Department of Natural Resources.

MR. FRANGOS: Thomas Frangos, Wisconsin Department of Natural Resources.

MR. STEIN: Murray Stein, Environmental Protection Agency, Washington, D.C.

MR. DOMINICK: I'm David Dominick, I am the Acting Commissioner of the Water Quality Office, Environmental Protection Agency, in Washington, D.C., and I am the representative of Administrator Ruckelshaus of the Environmental Protection Agency.

MR. McDONALD: James O. McDonald, Director of Regulatory Programs, Region 5, Environmental Protection Agency, Chicago.

MR. BRYSON: Dale Bryson, Environmental Protection Agency, Chicago.

MR. TUVESON: Robert C. Tuveson, Minnesota Pollution Control Agency.

MR. ANDERSEN: I'm Howard A. Andersen, Minnesota Pollution Control Agency.

MR. MERRITT: My name is Grant J. Merritt, Minnesota Pollution Control Agency, Executive Director.

MR. DOMINICK: Thank you. The parties to this conference are the official State and water pollution control agencies of Minnesota, Wisconsin, Michigan and the Environmental Protection Agency.

Participation in this conference will be open to representatives and invitees of these agencies and such persons as informed me that they wish to make statements. However, only the representatives of the State water pollution control agencies and the Environmental Protection Agency constitute the conferees.

Now, a word, if we may, about the procedures governing the conduct of the conference. The conferees will be called upon to make statements. The conferees, in addition, may call upon participants whom they have invited to the conference to make statements. In addition, we shall call on other interested individuals who wish to present statements. At the conclusion of each statement, the conferees will be given an opportunity to comment or ask questions, and I may ask a question or two. This procedure has proven effective in the past in reaching equitable solutions.

At the end of all of the statements, we shall have a discussion among the conferees and try to arrive at a basis of agreement on the facts of the situation. Then we shall attempt to summarize the conference orally, giving the conferees, of course, the right to amend or modify the summary.

Under the Federal law, the Administrator of the Environmental Protection Agency is required at the conclusion of the conference to prepare a summary of it, which will be sent to the conferees. The summary, according to law, must include the following points: No. 1, occurrence of pollution of interstate waters subject to abatement under the Federal Act; No. 2, adequacy of measures taken toward abatement of that pollution; and No. 3, the nature of delays, if any, being encountered in abatement of the pollution, and the Administrator is also required to make recommendations for remedial action, if such recommendations are indicated.

A record and verbatim transcript of the conference is being made by, and could you identify yourself, please.

THE COURT REPORTER: Gerald Schissler, St. Paul.

MR. DOMINICK: Thank you.

This is being made for the purpose of aiding us in preparing a summary and also for providing a complete record of what is said here. It usually takes about three or four months for the transcript to come out in printed form. If you wish a record beforehand, you can check with the reporter, who is on contract to us, and make your own arrangements with him to prepare a transcript.

I should indicate we do not print in color, so take into account any charts you may present will be done in black and white. Try not to refer to colors if you use graphic aids in your presentation, as they will be meaningless in the reading of the transcript.

We shall make copies of the summary and transcript available to the official State water pollution control agencies. We have generally found that for the purpose of maintaining relationships within the States, that people who wish summaries and transcripts should request them through their State agency, rather than come directly to the Federal Government. The reason for this is that when the conference has been concluded, we would prefer people who are interested in the problem, to follow their normal relations in dealing with the State agencies rather than the Federal Government. That has worked successfully in the past and we would be most happy to make this material available for distribution.

I would suggest that all speakers and participants other than the conferees making statements come to the lectern and identify themselves for purposes of the record.

I would like at this point to turn to the agenda which has been drawn up in consultation with the conferees and read from that agenda and receive any statements from the conferees as to the adequacy of the agenda: Statements by Federal or State elected representatives; a statement by EPA summarizing past conferences, to be conducted by Mr. Dale Bryson; a report of the Lake Superior Technical Committee; a statement by the Reserve Mining Company; statements by Minnesota relative to Reserve Mining Company discharge; statements by Wisconsin relative to Reserve Mining discharge; statements by Michigan relative to Reserve Mining discharge; statements by private citizens or groups relative to Reserve Mining discharge; statements by other Federal or State agencies relative to Reserve Mining discharge; and discussion by conferees.

We would hope to be able to conclude the majority of our business with respect to the major discharger in this conference area, the Reserve Mining Company, today, but we must keep that agenda flexible in order to examine all of the facts.

Tomorrow it is planned to have statements by private citizens or groups on other subjects; statements by Federal or State agencies on other subjects; proposed provisions to Lake Superior water quality criteria; status of compliance of dischargers in the conference area from the following States in this order: Wisconsin, Michigan and Minnesota; a discussion of the red clay area problem by Wisconsin; and a discussion of other recommendations.

Are there any comments from the conferees at this time on this agenda?

Very well. We would hope to stick to this agenda as carefully as possible. We want to accommodate everyone here who has taken time and trouble to come and express an interest in this matter, and if there are any extraordinary circumstances which require that you testify, please present them to me personally, but we would hope to stick to this agenda as closely as possible.

I would like to turn now to statements by Federal or State-elected State Representatives.

We have a number of telegrams and messages here, including letters. I would like to ask the conferees that these messages and letters be placed in the record verbatim. Is there any desire that -- does any other conferee have additional telegrams or statements?

Well, there are not that many, and I might just read them to make them available to the entire audience.

"I urge that you require Reserve Mining Company to dispose of tailings on land. Please don't allow continued dumping in Lake Superior. Help us to keep our lake clean, beautiful and live. Dr. and Mrs. Otto Ruehr, South Range, Michigan."

"Cause Reserve Mining Company proposal for disposing of taconite tailings has been found unacceptable. I now urge the Enforcement Conference to devise criteria for an acceptable disposal plan to be carried out by the company within a specified time period. It is time to focus attention not on how or to what degree the pollution will stop but when it will stop. Philip E. Ruppe, Member of Congress, 11th District of Michigan."

"The endangered state of Lake Superior being under active discussion, we protest the Reserve Mining Company's being meanwhile allowed to continue dumping in the lake and request that the company be required to store their rock waste on the land until a final decision is reached. Dr. Betzabe Allison, Bio-science Department, Michigan Technology; Dr. John Allison, Chemistry Department, Michigan Technology."

"As residents of the copper country in upper Michigan, we want our names added to the list of those urging the immediate stoppage of dumping taconite tailings into Lake Superior. Please force the Reserve Mining Company to use an on-land disposal for their wastes. Please save Lake Superior from further pollution. Don't allow Reserve Mining Company to delay any longer. Mr. and Mrs. John Larue of Houghton, Michigan."

A statement from Carl W. Gutman, Co-chairman of Citizens to Save Superior's Shoreline. "Conferees, to whom it may concern: Citizens to Save Superior's Shoreline of Marquette, Michigan, Michigan Branch of Save Lake Superior Association, wishes to reiterate its position on Reserve Mining Company's protracted dumping of iron ore tailings daily into Lake Superior. Under no circumstances must this be allowed to continue. Profits cannot now be at the expense of people and the environment. Reserve should be forced to halt production immediately until a satisfactory(read clean)disposal plan can be implemented. The debt it owes to the public in fouling the environment is inestimable and the damage it has inflicted is irreversible. Since Reserve Mining officials now know full well they are the major polluters of Lake Superior, their continued disregard for the environment is an affront to the public and a travesty to future concern on the part of big business. For Federal Agencies to allow this condition to exist is to perpetuate a grievous error. Sincerely, Carlton W. Gutman, Co-chairman, Citizens to Save Superior's Shoreline."

Those represent the messages that have come to our attention.

I'd like to turn now to Mr. Dale Bryson with a statement summarizing past conferences.

DALE S. BRYSON
ENVIRONMENTAL PROTECTION AGENCY
GREAT LAKES REGIONAL OFFICE
CHICAGO, ILLINOIS

MR. BRYSON: On January 16, 1969, the Secretary of the Interior called a conference in the matter of pollution of the waters of Lake Superior and its Tributary Basin on the basis of reports, surveys and studies indicating that interstate pollution was occurring, and in accordance with Section 10 of the Federal Water Pollution Control Act. The conference first met on May 13th to the 15th, 1969, and reconvened in Executive Session on September 30 and October 1, 1969. The conference has subsequently met April 29th and 30th, August 12th and 13th, 1970 and January 14th to 15th, 1971.

At the first session of the conference, the conferees concluded that the general quality of the water of Lake Superior is excellent, and that the lake is a priceless natural heritage which the present generation holds in trust for posterity, with an obligation to pass it on in the best possible condition.

The largest single source of waste discharge to Lake Superior is from the Reserve Mining Company taconite beneficiation plant in Silver Bay, Minnesota. The conferees concluded at the first session that there was presumptive evidence in the record to indicate that the discharges from Reserve Mining Company endangered the health or welfare of persons in States other than that in which such discharge originated and this pollution was subject to abatement under the provisions of the Federal Water Pollution Control Act. The conferees also addressed themselves to other discharges of waste originating in Michigan, Minnesota and Wisconsin, and concluded that there are other discharges causing pollution of Lake Superior, endangering the health or welfare of persons in States other than those in which the discharges originated, and were also subject to abatement under the provisions of the Federal Water Pollution Control Act.

The conferees recommended that all dischargers provide secondary biological waste treatment or its equivalent by January 1974 or earlier if required by Federal-State Water Quality Standards. Reserve Mining Company, because of the complexities involved, was requested to undertake further engineering and economic studies relating to possible ways and means of reducing by the maximum practicable extent the discharge of tailings to Lake Superior and to submit a report on progress to the Minnesota Pollution Control Agency and the conferees by July 26, 1970. The report was to include a tentative timetable for necessary action. In issuing the Summary of Conference, First Session, the Secretary of the Interior recommended that a working copy of the progress report be readied by April 1, 1970, with the final progress report submitted by the July 26, 1970 date.

At the April 29-30, 1970 meeting of the Second Session, the Reserve Mining Company presented its preliminary progress report, a working copy of its progress report. At the August 12-13, 1970 meeting of the Second Session, the committee presented a further progress report. In light of the discussions at the Second Session, the conferees recommended that the Reserve Mining Company provide to the conferees, through the State of Minnesota, preliminary plans for abatement of the pollution from its discharge to Lake Superior by December 1, 1970, and the final plans and specifications by September 1, 1971 for accomplishing its remedial program. All other dischargers causing pollution of Lake Superior or its interstate tributary streams were listed by the conferees along with final completion dates for construction and placing in operation remedial facilities.

Reserve Mining Company failed to submit the preliminary plans by December 1, 1970. The company did request an extension of this deadline which was not granted. At the January 14-15, 1971 Conference Session, the committee submitted their preliminary plan titled "Plan to Modify Tailings Discharge System." In order to effectively evaluate Reserve's proposal, the conferees established a technical committee and charged it with evaluating the plan put forth by Reserve and also to consider land disposal of the taconite tailings. The committee was instructed to report back to the conferees in 45 days. At this session the Technical Committee will present its report and make its recommendations.

While Reserve Mining Company has occupied a great share of conference time and consideration, the other dischargers in the conference area have not been ignored. All dischargers except Reserve Mining Company have been placed under final requirements by the States that will effect compliance with conference requirements. The States will present a progress report on status of compliance later in the conference.

This conference has taken strong action against all sources of pollution to preserve and protect the general overall excellent water quality of Lake Superior. Appropriate legal action has been taken where necessary to achieve compliance with established requirements. All legal and/or administrative actions will continue to be used as necessary to achieve compliance with the conference requirements.

MR. DOMINICK: Thank you, Mr. Bryson.

I'd like to hear now from Mr. Johannes, giving a report of the Lake Superior Technical Committee.

CLARENCE A. JOHANNES
ACTING DIRECTOR, DIVISION OF WATER QUALITY
MINNESOTA POLLUTION CONTROL AGENCY
MINNEAPOLIS, MINNESOTA

MR. JOHANNES: My name is Clarence A. Johannes. I'm the Acting Director of the Division of Water Quality of the Minnesota Pollution Control Agency.

The report of the Technical Committee is as follows:

The discharge of taconite tailings from the Reserve Mining Company at Silver Bay, Minnesota, its effect on Lake Superior and method of control, have occupied a large portion of the conference discussions. At the January 14-15, 1971 conference, Reserve Mining Company submitted a "Plan to Modify Tailings Discharge System." The conferees established a Technical Committee to evaluate the plan presented and also to consider land disposal of the taconite tailings. The committee was instructed to report back to the conferees in 45 days.

C. A. Johannes

The following committee was designated by the conferees:

Minnesota: Executive Director of the Minnesota Pollution Control Agency, John P. Badalich, succeeded by Mr. Merritt in March, and appointed myself from the Minnesota Pollution Control Agency, named official representative in March.

Lovell E. Richie and George M. Koonce, both of the Minnesota Pollution Control Agency.

In Wisconsin, Thomas G. Frangos, Wisconsin Department of Natural Resources; Theodore F. Wisniewski, Wisconsin Department of Natural Resources, named official representative in January. Lloyd Lueschow, Wisconsin Department of Natural Resources, was an alternate.

From Michigan we had Joe Bal, Michigan Water Resources Commission, Thomas L. Kamppinen, Michigan Water Resources Commission as an alternate.

From the Environmental Protection Agency, Mr. Dale Bryson was the Secretary, and Dr. Donald Mount served as Advisor to the Committee.

The Technical Committee held meetings in Minneapolis on January 19, 26, February 2-4, 11, 25, and March 5 of this year.

In order for the committee to evaluate alternative methods of disposal of taconite tailings, more detailed information was needed than the indefinite method of "on-land disposal." The committee, therefore, delineated methods of disposal they felt were representative of the various alternatives available. These alternative methods were of necessity, general conceptual methods in place of detailed specific methods that specified processes and piping arrangements. These alternatives are described in Attachment A, which is appended to this report.

If a true environmental impact assessment is going to be made of alternative methods of disposal, a number of considerations involving water, land and miscellaneous other aspects must be considered. The committee recognized this and developed a list of criteria to use in evaluating any method. These are presented in Attachment B to this statement. In reviewing Attachment B it becomes evident that it would be impossible for any method of disposal to minimize the impact on all of the criteria at one time. In other words, a disposal method may satisfy certain criteria at the expense of other criteria. It is at this point that environmental trade-offs must be considered.

The committee combined the alternate methods of disposal and the evaluating criteria in tabular form, establishing a rating system and distributed the information to various groups to elicit discussion on the subject. The following organizations were requested to appear before the committee to discuss their evaluation and any other pertinent material. These were the Minnesota Environmental Control Citizens Association, the Save Lake Superior Association, the Northern Environmental Council, the Minnesota Department of Natural Resources, Reserve Mining Company, the U. S. Bureau of Mines, and the U. S. Sport Fisheries and Wildlife.

A summary of these organizations' discussion with the committee is available in the committee minutes and will not be presented here. The appearance by these groups helped to establish important concepts and served to highlight the difficulty of discussing conceptual methods of tailings disposal and achieving a consensus of opinion. Varying viewpoints were presented by the groups as to methods of achieving adequate disposal. For example, Minnesota Environmental Control Citizens Association, Save Lake Superior Association and Northern Environmental Council favored a method of disposal of the total tailings on-land in an area near Lax Lake. On the other hand, the Minnesota Department of Natural Resources, while not making a judgment on the alternative, said such a location for a tailings lagoon presents certain safety hazards and possible impairment to the land uses in that area which must be evaluated. Instead they suggested as an alternate that a portion of the plant be relocated closer to the mine. Reserve Mining Company explained that the latter plan would not be feasible.

The "Plan to Modify Tailings Discharge System" as presented by the Reserve Mining Company at the January 14-15 Lake Superior Enforcement Conference was reviewed by the committee. The committee concludes this method of disposal is unacceptable as it does not comply with appropriate pollution abatement regulations. The main concerns relative to this method are:

a. The proposed method would not eliminate green water.

b. The proposed method would not materially reduce dissolved solids discharged to the lake.

c. The proposed method would not materially reduce the suspended solids discharged to the lake, and

d. The proposed method would employ a flocculent which would be discharged to the lake and which would have unknown ecological impact.

When considering the abatement of an existing source of pollution, the historical policy of the State and Federal Regulatory Agencies has been to rely upon the discharger to develop the appropriate acceptable method of waste treatment consistent with established guidelines. If the method proposed by the discharger is found to be unacceptable, appropriate additional guidance is furnished the discharger for use in making the proper corrections prior to resubmission. In the Lake Superior Enforcement Conference situation, general guidance and criteria are provided in the conference recommendations. Specification of remedial facilities in securing compliance have been left to each conferee for polluters located within its jurisdiction. The Lake Superior Technical Committee feels that the same consideration should apply to the Reserve Mining Company method of disposal.

We therefore condluded as a committee that the "Plan to Modify Tailings Discharge System" as presented by Reserve Mining Company is an unacceptable method of waste disposal.

No other firm methods of tailings disposal were presented to the conference for evaluation.

The committee was unable to obtain and develop alternative disposal methods in sufficient detail to technically evaluate them.

It is the responsibility of a waste discharger to develop an acceptable method of waste treatment for presentation to the appropriate regulatory agencies.

It is the responsibility of the appropriate regulatory agencies to provide guidance to the discharger, in this case Reserve Mining Company, as to the acceptability of a method of disposal and, if unacceptable, to provide guidance as to the modifications necessary to become acceptable.

The Lake Superior Technical Committee reccommends that:

1. Reserve Mining Company be instructed to develop a means of taconite tailings disposal that will eliminate the causes of concern delineated above and elsewhere in the conference proceedings.

2. Reserve Mining Company be provided with the appropriate criteria upon which an acceptable method of disposal can be designed.

That concludes my report, Mr. Chairman.

(The above - mentioned report follows in its entirety.)

# LAKE SUPERIOR ENFORCEMENT CONFERENCE
# TECHNICAL COMMITTEE REPORT
# ON
# TACONITE TAILINGS DISPOSAL

MARCH 1971

# LAKE SUPERIOR ENFORCEMENT CONFERENCE
# TECHNICAL COMMITTEE REPORT
# ON TACONITE TAILINGS DISPOSAL

## I. INTRODUCTION

On the basis of reports, surveys or studies the Secretary of the Interior, on January 16, 1969, called a Conference in the Matter of Pollution of the Interstate Waters of Lake Superior and Its Tributary Basin (Minnesota-Wisconsin-Michigan) under the provisions of Section 10 of the Water Pollution Control Act as amended.

The conference held sessions on May 13-15, 1969; September 30 - October 1, 1969; April 29-30, 1970; August 12-13, 1970, and January 14-15, 1971.

The discharge of taconite tailings from the Reserve Mining Company at Silver Bay, Minnesota - its effect on Lake Superior and method of control have occupied a large portion of the conference's discussions. At the January 14-15, 1971 conference, Reserve Mining Company submitted a "Plan to Modify Tailings Discharge System." The conferees established a Technical Committee to evaluate the plan presented and also to consider land disposal of the taconite tailings. The committee was instructed to report back to the conferees in 45 days.

The following committee was designated by the conferees:

Minnesota: Executive Director, Minnesota Pollution Control Agency
John P. Badalich, succeeded by Grant J. Merritt in March.
Clarence A. Johannes, Minnesota Pollution Control Agency, named official representative in March.
Lovell E. Richie, Minnesota Pollution Control Agency.
George M. Koonce, Minnesota Pollution Control Agency.

Wisconsin: Thomas G. Frangos, Wisconsin Department of Natural Resources

Theodore F. Wisniewski, Wisconsin Department of Natural Resources, named official representative in January.

Lloyd Lueschow, Wisconsin Department of Natural Resources, (Alternate).

Michigan: Joe Bal, Michigan Water Resources Commission.

Thomas L. Kamppinen, Michigan Water Resources Commission (Alternate).

Federal: Dale S. Bryson, Environmental Protection Agency, Water Quality Office,(Secretariat).

Dr. Donald I. Mount served as an advisor for Environmental Protection Agency, Water Quality Office, to the committee.

## II. COMMITTEE ACTIONS

The Technical Committee held meetings in Minneapolis, Minnesota on January 19, 26, February 2-4, 11, 25, and March 5, 1971.

In order for the committee to evaluate alternative methods of disposal of taconite tailings, more detailed information was needed than the indefinite method of "on-land disposal." The committee, therefore, delineated methods of disposal they felt were representative of the various alternatives available. These alternative methods were of necessity, general conceptual methods versus detailed specific methods that specified processes and/or piping arrangements. These alternative methods are described in in attachment A.

If a true environmental impact assessment is going to be made of alternative methods of disposal, a number of considerations involving water, land and miscellaneous other aspects must be considered. The committee recognized this and developed a list of criteria to use in evaluating any method. These are presented in attachment B. In reviewing attachment B it becomes evident that it would be impossible for any method of disposal to minimize the impact on all of the criteria at one time. In other words, a disposal method may satisfy certain criteria at the expense of other criteria. It is at this point that environmental trade-offs must be considered.

The committee combined the alternate methods of disposal and the evaluating criteria in tabular form, established a rating system and distributed the information to various groups to elicit discussion on the subject. The following organizations were requested to appear before the committee to discuss their evaluation and any other pertinent material: Minnesota Environmental Control Citizens Association, Save Lake Superior Association, Northern Environmental Council, Minnesota Department of Natural Resources, Reserve Mining Company, U.S. Bureau of Mines and U.S. Sport Fisheries & Wildlife.

A summary of these organizations' discussion with the committee is available in the committee minutes and will not be presented here. The appearance by these groups helped to establish important concepts and served to highlight the difficulty of discussing conceptual methods of tailings disposal and achieving a consensus of opinion. Varying viewpoints were presented by the groups as to methods of achieving adequate disposal. For example, Minnesota Environmental Control Citizens

Association, Save Lake Superior Association and Northern Environmental Council favored a method of disposal of the total tailings on land in an area near Lax Lake. On the other hand, the Minnesota Department of Natural Resources, while not making a judgement on the alternative said such a location for a tailings lagoon presents certain safety hazards and possible impairment to the land uses in that area which must be evaluated. Instead they suggested as an alternative that a portion of the plant be relocated closer to the mine. Reserve Mining Company explained that the latter plan would not be feasible.

The "Plan to Modify Tailings Discharge System" as presented by the Reserve Mining Company at the January 14-15 Lake Superior Enforcement Conference was reviewed by the Technical Committee. The committee concludes this method of disposal is unacceptable as it does not comply with appropriate pollution abatement regulations. The main concerns relative to this method are:

a. The proposed method would not eliminate green water.

b. The proposed method would not materially reduce dissolved solids discharged to the lake.

c. The proposed method would not materially reduce the suspended solids discharged to the lake.

d. The proposed method would employ a flocculent which would be discharged to the lake and which would have unknown ecological impact.

When considering the abatement of an existing source of pollution the historical policy of the State and Federal regulatory agencies has been to rely upon the discharger to develop the appropriate acceptable method of waste treatment consistent with established guidelines. If the method proposed by the discharger is found to be unacceptable, appropriate additional guidance is furnished the discharger for use in making the proper corrections prior to resubmission. In the Lake Superior Enforcement Conference situation, general guidance and criteria are provided in the conference recommendations. Specifications of remedial facilities in securing compliance have been left to each conferee for polluters located within its jurisdiction. The Lake Superior Technical Committee feels that the same consideration should apply to the Reserve Mining Company method of disposal.

## III. CONCLUSIONS

The Lake Superior Technical Committee concludes that:

1. The "Plan to Modify Tailings Discharge System" as presented by Reserve Mining Company is an unacceptable method of waste disposal.
2. No other firm methods of tailings disposal were presented to the conference for evaluation.
3. The committee was unable to obtain and develop alternative disposal methods in sufficient detail to technically evaluate them.
4. It is the responsibility of a waste discharger to develop an acceptable method of waste treatment for presentation to the appropriate regulatory agencies.
5. It is the responsibility of the appropriate regulatory agencies to provide guidance to the discharger, in this case Reserve Mining Company, as to the acceptability of a method of disposal and, if unacceptable, to provide guidance as to the modifications necessary to become acceptable.

## IV. RECOMMENDATIONS

The Lake Superior Technical Committee recommends that:

1. Reserve Mining Company be instructed to develop a means of taconite tailings disposal that will eliminate the causes of concern delineated above and elsewhere in the conference proceedings.
2. Reserve Mining Company be provided with the appropriate criteria upon which an acceptable method of disposal can be designed.

## DESCRIPTIONS OF ALTERNATIVE METHODS OF DISPOSAL

1. Present method of discharge. Discharge all tailings and wastewater, untreated, directly to Lake Superior from existing facility at Silver Bay.

2. Proposed method of discharge. This emcompasses the plan entitled, "Plan to Modify Tailings Discharge System," as presented at the Lake Superior Enforcement Conference. It entails hydro-separation of the coarser tailings and coagulation of the hydro-separator overflow. The combined underflow from the clarifiers and hydro-separators will be discharged in the conduit down the face of the existing delta, 150 feet below the lake's surface. The clarified overflow will be discharged to the harbor area.

3. Modified proposed method. Method No. 2 above modified for direct recirculation of clarifier overflow for use as process water with no discharge to the harbor. Assume an acceptable coagulant is used. Assume existing launderers are removed.

4. Lake shore tailings pond. A dike of coarse tailings would be built in the lake with the base approximately 100 feet deep. Subsequent to construction all tailings would be discharged to the pond with the overflow being recirculated as process water. The proposal would eliminate the discharge of any tailings to the lake other than the coarse tailings required to build the dikes.

5. Solids to denuded area. Separation of solids at plant site utilizing system as described in number 2. Solids would be hauled to a remote site for disposal in a denuded area. Complete recirculation of clarified water for use as process water.

6. Coarse material to Lake Superior, fines to land disposal. Coarse material would be separated at the plant without use of a flocculent utilizing processes described in number 2. This material would be discharged to Lake Superior in approximately 10,000 gallons per minute of water. The fine fraction of tailings would be discharged to a settling pond on land. Assume recirculation of any overflow from the pond for use as process water, and hence, no discharge from the pond area to a surface water course. Assume diversion of natural runoff around the pond.

7. Coarse material to Lake Superior, fines to land disposal, overflow to surface water course. Assume conditions same as No. 6 except that overflow from settling pond meets all applicable effluent standards for disposal of surface waters.

8. Total tailings on land, no discharge to a surface water course. Total tailings would be discharged to a settling pond with the overflow being recirculated for process water. All natural drainage would be diverted around the settling pond.

9. Total tailings on land, overflow to surface water. Total tailings would be discharged to a settling pond with the overflow from the site meeting all applicable effluent standards for disposal to surface waters.

10. Relocation of beneficiation plant near the existing mine site. Assume process water is obtained from the immediate area initially with complete recirculation of settling pond overflow thereafter. Assume makeup water is obtained from the immediate area.

## CRITERIA FOR EVALUATING
## ALTERNATIVE
## METHODS OF DISPOSAL

### WATER CONSIDERATIONS

1. Meets Federal-State water quality standards:
    a. 5 JTU turbidity
    b. 30 mg/l suspended solids
    c. 1 mg/l phosphorus
    d. 10/100 ml fecal coliform
    e. pH 6.5 to 8.5
    f. Secondary treatment or equivalent
    f. Non-degradation

2. Minimum discharge to surface waters
    a. Suspended solids
    b. Dissolved solids

3. Minimum appropriation of surface waters

4. Minimum discharge of chemical additives to surface waters

5. Esthetically pleasing

### LAND CONSIDERATIONS

6. Acceptable for:
    a. Wildlife
    b. Timber & pulp production
    c. Recreation

7. Esthetically pleasing

8. Reclaimable

9. Minimum post-operative maintenance

### OTHER CONSIDERATIONS

10. No dust problem

11. Flexibility to accomodate process changes

12. Adequate capacity to handle future tailings production

13. Economically feasible

14. Technically feasible

15. Reliability

16. Short construction time

MR. DOMINICK: Thank you very much.

Do we have any comments or questions on the report presented by the representative of the Technical Committee? Comments or questions from the conferees?

State of Wisconsin?

MR. FRANGOS: We will reserve any comments until we comment on the Reserve Mining situation.

MR. DOMINICK: Thank you.

State of Michigan?

MR. FROST: No, sir, not at this time.

MR. DOMINICK: State of Minnesota?

MR. MERRITT: Minnesota has no questions at this time.

MR. DOMINICK: Thank you.

We'll hear now from the Reserve Mining Company

All right, Mr. Fride.

EDWARD T. FRIDE

ATTORNEY-AT-LAW

DULUTH, MINNESOTA

MR. FRIDE: Mr. Commissioner, conferees, my name is Edward Fride. I am a practicing lawyer in Duluth. I'm appearing here on behalf of Reserve Mining Company.

At the January 15, 1971 Session of this conference, the conferees concurred in the establishment of a Technical Committee, which was charged with responsibility, and I quote, "The committee will consider land disposal as well as the underwater disposal plan presented here and come up with its evaluation as well as its recommendations...the Committee can just look at the feasibility of this kind of thing and hopefully get in touch with Reserve or any of the other parties and ask them to consult with them and see what recommendations they can come up with.

"Now, I think we are faced"-- and I'm continuing the quote -- "with several propositions. We are faced with the proposition of -- and let's start the other way by saying we are going to entertain the Reserve proposal for underwater disposal as is. We are going to entertain that and recommend it with modifications. We are going to reject it and tell them to go to a land disposal system, or we are going to reject it completely, that they have not come up with a remedial program and take appropriate action legal action and let the court decide what the solution should be... I would strongly urge that everyone get all their theories out on the table at least at this go-around...." end of quote.

This then was the charge to the Technical Committee. Responsive to the Technical Committee's request, Reserve Mining Company appeared before it on February 3, 1971, and submitted at that time its written response to the committee's inquiry. A copy of that response has been previously supplied to the conferees, and at this time, Mr. Commissioner, I would like to formally make such response an exhibit in these proceedings.

MR. DOMINICK: Without objection that will be done.

(The response referred to is entitled "Reserve Mining Company's Response to Inquiry from Lake Superior Enforcement Conference Technical Committee" and is marked Exhibit 1 and is on file at HQ, EPA, Washington, D.C. and Region V, Chicago, Illinois.)

MR. FRIDE: Statements and activities pertinent to the Technical Committee are summarized and referred to in my affidavit which I submitted to the Minnesota District Court, which is attached and made a part of the statement which I am presenting this morning. Mr. Merritt's responsive affidavit is attached to my statement for its informative value.

By letter dated April 15, 1971, from the Environmental Protection Agency, Reserve was furnished the report of the Lake Superior Technical Committee, which has just been formally presented by Mr. Johannes of the Minnesota Pollution Control Agency staff. I think it's significant and should be noted that the report provides in part, and I quote, "The Committee was unable to obtain and develop alternative disposal methods in sufficient detail to technically evaluate them..." And just pausing for moment, I think it is significant as to whether or not, as you review the committee's report, whether they were in position to meet the charge that was addressed to them. The report continues, "It is the responsibility of the appropriate regulatory agencies to provide guidance to the discharger, in this case Reserve Mining Company, as to the acceptability of a method of disposal and, if unacceptable, to provide guidance as to the modifications necessary to become acceptable... Reserve Mining Company be provided with the appropriate criteria upon which an acceptable method of disposal can be designed." End of quotes from that Technical Committee report.

Now, inasmuch as the "guidance" and the "criteria" contemplated by the Technical Committee has not been presented to Reserve, it would be now premature for Reserve to make an analysis and evaluation of the Technical Committee report, and the proposed agenda referred to by the Commissioner provides that following this statement by Reserve, there will be statements by Minnesota relative Reserve's discharge. I think it is significant that just last Monday at the April 19 meeting of the Minnesota Pollution Control Agency - and parenthetically, may I suggest that this conference under the Federal law is a conference of the agencies', it does not purport to be a conference reflecting the views of any individual or any single political figure, but rather under law, it is a conference of the agencies. The Minnesota Pollution Control Agency on April 19, 1971, at its regular monthly meeting unanimously passed a motion to the effect that the Minnesota representatives are obligated to make clear to the conferees that any Minnesota statements or Minnesota Pollution Control Agency staff reports which may be presented to this conference have not been approved or sanctioned by the Minnesota Pollution Control Agency and do not reflect the policy of that Agency, since any policy considerations contained in any such statements or staff reports have not been the subject of an opportunity to review or vote on them by the Agency which is the official party to this conference.

Now, subsequent to the presentation of Reserve's modification plan to the Minnesota Pollution Control Agency on February 8, 1971, that Agency directed its staff to engage in good faith negotiations with Reserve Mining Company consistent with Judge C. L. Eckman's decision of December 15, 1970. That court directed negotiation was also the subject of a subsequent order, in which the Court said that while there was evidence of an arbitrary position taken by the director, that the Agency itself had made clear to the court as it had made clear to its staff, that it wanted to engage in good faith negotiations with Reserve Mining Company consistent with the judge's order. The plan that was presented to the Minnesota Pollution Control Agency was presented on February 8. Now, there may be some question here as to times. But it perhaps, parenthetically, could be noted that Reserve had until May 15 of 1971 to present a plan to the Minnesota Agency. It did not wait until May 15. It came in as soon as possible on February 8, and presently, we are hopeful that there will in fact be good faith negotiations between Reserve and the Minnesota Pollution Control Agency.

The plan of Reserve, as Mr. Bryson has noted, was presented to this conference at its January 15, 1971 Session.

It is respectfully requested, Mr. Commissioner and conferees, that Reserve be afforded an opportunity to later respond during this conference session to any statements to be made with respect to Reserve's plan by the States, private citizens or groups, Federal or State agencies or the conferees. Until Reserve is made aware of further conference proceedings, it has not been provided with the guidance contemplated by the Technical Committee report, quote, "As to the acceptability of Reserve's plan (as represented) and, if unacceptable, guidance as to the modifications necessary to be acceptable" as concluded by the Lake Superior Technical Committee of this conference. Again, it would be premature for Reserve at this point, without such guidance and without such criteria, to attempt to make any meaningful response to the Technical Committee report.

As the Commissioner noted in his opening remarks, this conference was convened under Section 10 (d) (1) of the Federal Water Pollution Control Act. That Act contains a congressional declaration of policy which states, and I quote, "...It is declared to be the policy of Congress to recognize, preserve and protect the primary responsibilities and rights of the States in preventing and controlling water pollution...Nothing in this chapter shall be construed as impairing or in any manner affecting any right or jurisdiction of the

States with respect to the waters (including boundary waters) of such States."

The Act goes on to provide that, "Consistent with the policy declaration of this chapter, "that I referred to, "State and interstate action to abate pollution of interstate or navigable waters shall be encouraged and shall not, except as otherwise provided by or pursuant to Court Order under Subsection (h) of this Section, be displaced by Federal enforcement action."

Now, as the conferees and the audience are well aware, both Reserve Mining Company and the Minnesota Pollution Control Agency have expended very substantial effort in the Minnesota Courts in attempting to arrive at a final legal conclusion of the controversy. The issues litigated have included whether certain interstate water quality standards are reasonable as applied to Reserve, and significantly, whether Reserve is polluting Lake Superior within the meaning of the very stringent Minnesota definition of pollution, or is guilty of creating any nuisance by its discharge. These issues have been determined at the trial court level.

The Minnesota Pollution Control Agency, after the decision that I referred to, moved the Court for amended findings or a new trial. Now, this motion has been denied by the Court as of April 8, 1971.

On April 20, last Tuesday, Reserve Mining Company was served with a Notice of Appeal by the -- or to the Minnesota Supreme Court by the Minnesota Pollution Control Agency. Now, in making this appeal to our Supreme Court in this State, the Agency is obviously expressing its intention to pursue the matter to the highest appellate court in Minnesota for final determination. Thus, until the Minnesota Supreme Court has resolved the matter, Reserve is subject to possible conflicting directives, and in the light of the congressional policy to which I have referred, under which this conference was convened, it is respectfully submitted that the conference should defer further action until the Supreme Court determination sought by Minnesota is available. This is not in any way to suggest that Reserve is unwilling to promptly evaluate any criteria and guidance proffered by the conference with respect to possible modification of its tailings system. Affirmatively, it is most willing to evaluate and consider any guidance offered by this conference to the company, just as it is more than willing to negotiate in good faith with the Minnesota Agency with respect to any possible modifications.

It is, of course, not desirous of being placed in the untenable position of obeying one of several conflicting directives at its peril. To that end, and in view of the primary responsibility of Minnesota, it is also recommended that the Minnesota Pollution Control Agency and Reserve negotiate with respect to a modification as contemplated by the Court Order and the expressed desire of the Minnesota Agency. Any such agreement could form the basis for a Minnesota recommendation to this conference, and aid in what all well intentioned parties desire -- a prompt, fair and a reasonable solution to this controversy; which, of course, should consider the impact of the discharge on the total environment, air and land, as well as water, and a solution which does not threaten the continuance of Reserve's significant contribution to this area, the State and the Nation.

That, Mr. Commissioner, concludes the statement which Reserve would like to submit at this time. I am, of course, available to respond to any questions, but I do, as I indicated earlier, respectfully request an opportunity to again be heard at this session of the conference to discuss with the conferees any guidance or criteria that may be suggested by the conferees.

MR. DOMINICK: Are there any questions by the conferees?

MR. STEIN: I have a comment about the representatives of Minnesota not being authorized to speak for their Board. I think in all cases we have that problem when a conferee comes to any conference. Matters which come up at the conference cannot be anticipated, and often the conferee has to make a judgment on how he is going to react one way or the other. Then, of course, any State Board has the privilege of ratifying it. However, I think from the Federal point of view, if we are going to utilize this procedure, when we send an official notification to a State and it sends the representative, we have to assume that he is speaking for the State for the purposes of this conference, and the recommendations will be sent to the Administrator of EPA in accordance with Federal law. This is what the law provides. If the State responds by sending a conferee here, we certainly assume the good faith and credit of the State in sending the duly authorized representative to the conference.

MR. FRIDE: Well, Mr. Stein, Mr. Commissioner, if I may just respond to that comment.

I am sure that what you have indicated is probably the general rule and is one that provides for practical workability at most conference sessions. In many respects, however, I suggest that this conference relating apparently as it does to one discharger, at least the principal focus is obviously in that direction, is somewhat unique from a number of other conferences. And I suggest, too, that an agency which is the conferee, should and must have, in

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fairness and consistent with its responsibilities, an opportunity to give instructions to the conferees who are representing that particular agency.

Now, the subject - and I don't want to take a great deal of the conferees time on it, but I think it's quite pertinent and quite important - the point that you bring up, because we are dealing here with a rather unique situation, I suppose it isn't always the case where the principal civilian antagonist of a company ends up purporting to act in judgment of the views which he has long expressed. I think that when Mr. Merritt appeared before the Technical Committee, he took a very definite stand - one that I think has been consistent with his long held views on the subject, but which I submit operated to really frustrate an honest technical evaluation of Reserve's plan or any other plan. Because he stated simply that any plan or combination of plans which did not envision total on-land deposition of Reserve's tailings would not be acceptable, and he purported to be speaking in an official capacity. Now, with that kind of an input, if you will, to the Technical Committee, it was hardly in a posture to do that which the charge of this conference stated; namely, to objectively evaluate Reserve's plan, to come up with any recommendations as to modifications if the plan was found unacceptable, and also to evaluate any other plan. It is significant to note that no other plan was presented to the Minnesota Pollution Control Agency. I think that as practical people we can't simply deal in concepts. We have to deal in reality, and that concept, and I'm not suggesting that it isn't a sincerely held viewpoint, but it does get into the situation where you may not have a committee able to fulfill its charge. And it was with respect to that that the agency took the specific direction that it did that I have referred to last Monday when similar viewpoints were expressed by Mr. Merritt to the agency. He suggested, and an inquiry was made who did he speak for in exposing total on-land deposition, and the response was himself and the Governor. Well, the agency specifically took the action that I referred to, and I think in that light it is significant and it is not just the normal situation where you have somebody clothed with apparent authority. You have a specific directive that Minnesota, the Minnesota Pollution Control Agency is not committed to total on-land deposition of Reserve's tailings, and so with that, Mr. Stein, I think we have a little bit different situation than would be the normal case in a conference procedure.

MR. DOMINICK: Mr. Fride, if I may speak to that presentation of yours. I do not intend, as Chairman of this conference, to go behind any actions taken by the Technical Committee which has filed its report with us. That report was filed with the concurrence and with the approval of all members of that Technical Committee, and they reported back to this conference. The Technical Committee found that the disposal plan presented by Reserve Mining Company was unacceptable, and I believe spelled out many of the reasons for its unacceptability.

As to the problems that you have discussed within the agency of the State of Minnesota, I, as Chairman, also do not intend to go behind those questions. We are dealing in an official capacity with the State of Minnesota. We have given official notice to the State of Minnesota, and we assume that the representatives here are speaking for the sovereign State of Minnesota.

With that, I would turn the mike to any other conferees that wish to comment on this point.

MR. MERRITT: Mr. Chairman and Mr. Commissioner, if I may be permitted to make a short reply.

MR. DOMINICK: You certainly may.

MR. MERRITT: Thank you, Mr. Dominick. I appreciate your comments, and I think that we should recognize, first of all, that the conferees, Dr. Andersen, Chairman of our Minnesota Pollution Control Agency, and Mr. Robert Tuveson, and myself as Executive Director, are fully authorized to be here and represent the State of Minnesota.

I would like to just briefly reply to some of the comments of Mr. Fride. We have been through this before, and I don't think we should get involved in any detailed argument back and forth, and I am a little bit surprised that it came up again. We have been through this at least twice now in the last week, and I have made my comments. But I think for the record since Mr. Fride has made certain allegations that I should respond, and I would like to briefly mention the attack against me by the Reserve Mining Company in my appearance before the Technical Committee and the allegation that I have frustrated the work of the Technical Committee of this conference. I deny that categorically, and I want to explain just exactly what happened, briefly. I attended the last committee session on March 5, 1971 in Dale Bryson's office of the Environmental Protection Agency. The draft of the Technical Committee report was there and contained the essence of the report that has been presented by the committee here today, and specifically contained the finding that the Reserve Mining plan was unacceptable. Now, how could I frustrate the work of that committee? I think that charge is false, and I think the drafts of the committee reports will substantiate what I have said.

Now, Mr. Fride and Reserve Mining Company, and I assume you're speaking when you talk about my arbitrary attitude, Mr. Fride, for the company, I know this isn't a personal attack by you.

MR. FRIDE: It certainly isn't.

MR. MERRITT: I would like to explain just what this is all about if I might, briefly, Mr. Chairman.

What Mr. Fride and the company seem to be saying is that because the Governor of Minnesota, the Governor of Wisconsin, and now I'm pleased to hear and see, the Governor of Michigan, have endorsed on-land disposal; and I, in my official capacity as the representative of the Governor of Minnesota, Governor Wendell Anderson, have made certain statements in regard to that policy; and I fully support that policy that somehow this is arbitrary. I think the question that is before this governmental body and other governmental bodies in the country today is whether we, as governmental representatives, representatives of the people, if you will, can carry out the will of the people. The Governors haven't taken any arbitrary stand here. They have campaigned throughout the length and breadth of their States, and I can speak for Governor Anderson in this regard. This is a policy which is based on the people that he has talked to and the will of the people of the State of Minnesota. It is not an arbitrary stand. It is not a stand that he accepted just because I told him to, by the way. It is a position which he arrived at independently, I might say, and his position is just basically this that the people of Minnesota are insisting that these taconite tailings be deposited on-land.

Just one more point, if I may, Mr. Chairman. In line with what Mr. Stein said - and I fully subscribe to his views - I think what Mr. Fride and the company are seeking here, when he states that he understands the procedure of this conference but that there ought to be some special exception, is that the Reserve Mining Company is the only discharger that is not under an abatement schedule, and that chart up on the wall behind the conference table here points that out, I think very dramatically. When you read the legend, the only circle that is entirely black, which signifies no treatment, is Reserve Mining Company. Now, when they take the position that Mr. Fride is requesting, they're asking for continuation of the special consideration that they have received over the past two years from this conference and from others, and I'd like to just end by quoting from a statement Mr. Murray Stein made to the last session of this conference when he stated in reference to the Reserve Mining matter, "I feel that this special consideration of one polluter must end."

Thank you.

MR. FRIDE: Mr. Commissioner, perhaps if I might -- certainly I have not and do not now intend to make any personal criticism of Mr. Merritt's views. I think, however, that there may be differences of opinion which are a proper subject of conference deliberations.

The word "arbitrary" that I utilized was not my word, but rather a District Judge's word in describing the actions taken by Mr. Merritt at the Technical Committee sessions, and so I am simply quoting his word, not any others.

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I might just suggest, Mr. Commissioner, that in this situation when one says that we will not go behind a particular report, I know that you have a legal background. I know that. I suppose it would only be a fair situation when, for example, a doctor might register a diagnosis, I think it would simply be fair to ask him whether he's examined the patient before he would operate; and I think that that is what I am referring to in making it a part of the record. The situation is I think that the Technical Committee representatives are certainly well intentioned and generally very technically qualified. But the question is what was the frame of reference in which they were put, and what kinds of attitudes were expressed to them which they were trying to accommodate and yet live within the charge of the committee of this conference? And so I simply refer to that and make it a part of the record, because I think it is fair. I think you know that when we talk about legalisms, this company is branded in the medium, through a Technical Committee report, that a plan is quote "unacceptable" end of quote.

Now, I think perhaps all of us may have some idea what the Technical Committee had in mind when it made that statement. It said that the plan as presented is not acceptable. It didn't address itself to possible modifications. But the fact of the matter is that this company is subjected to a great deal of criticism simply by the use of that term. And I suggest that it is an important function of the conference, as they come to grips with the Technical Committee report, to properly inquire whether the Technical Committee had the opportunity to fulfill its charge and whether or not its report purports to be an objective evaluation of Reserve's plan, possible modifications to it, and possible land deposition. I think that is a proper and a fair question for this conference.

MR. DOMINICK: Thank you, Mr. Fride, for your considered statements. I would like to respond to some of the issues and questions that you have raised with respect to the Technical Committee. Then I would hope that we could recess for a short time and after the recess receive statements from the various States.

But responding to some of your concerns, I do not believe that the Reserve Mining Company has been unfairly treated by the handling of this Technical Committee report. The report clearly states why the plan as proposed by Reserve was found to be unacceptable:

a. The proposed method would not eliminate green water.

b. The proposed method would not materially reduce dissolved solids discharged to the lake.

c. The proposed method would not materially reduce the suspended solids discharged to the lake.

d. The proposed method would employ a flocculent which would be discharged to the lake and which would have unknown ecological impact.

Further, I think the committee went to some length in its report to discuss the traditional role of those who are regulated, as opposed to the regulators - be it a State agency or a Federal Agency - the role being that in order to abate pollution those who are being regulated are requested, and in the past have fulfilled those requests, to come up with acceptable plans for treatment and disposal of their wastes. In this case, the Technical Committee pointed out very clearly that there had not been plans developed with sufficient specificity, with sufficient detail to present to the Technical Committee alternatives for on-land disposal, and therefore the committee was unable to give its attention and give its technical expertise to such on-land disposal proposals. I think those two points need to be made.

Are there any other questions or comments here from conferees?

MR. STEIN: I have one other legal one, that I hope won't kick off a debate. I just made the first one on the authority of the State conferees for the record, and I have another legal point which Mr. Fride raises which goes to the heart of the matter. When you say it is submitted that the conference should defer further action until the State Supreme Court determination sought by Minnesota is available, now, the notion here is that we defer any action here until the State court takes action. Now, again, we are faced with the proposition - and I duly respect your thesis on this, Mr. Fride, and your citation of the law - but if we followed that procedure, then any conference anywhere in the country could be held up by someone taking the case to a State court, appealing it, and then getting the notion that we should wait and not take any action here until we have an appeal. A roughly similar case was just considered - a case brought by Ohio. It went to the Supreme Court, where the United States Supreme Court said that the conference was the place to handle the case and that the court would not be appropriate. Now, I think we have to get this kind of balance, but I think what you are raising here is a key question. If your thesis were true, then the conferees couldn't say anything and we would just go home and wait for the

Minnesota Supreme Court.

MR. FRIDE: Well, Mr. Stein, as I am sure you are well aware, the Ohio case that you refer to in the United States Supreme Court was perhaps a little broader than the comment mentioned. That decision was one which simply stated -- said that the United States Supreme Court was not the proper forum to initiate legal action because the United States Supreme Court was not properly equipped to evaluate facts. It did refer to trial court's ability so to do and also referred to the conference proceedings, and the point I think being very properly one that here we have already expended a great deal of effort in giving everybody an ample opportunity to ventilate their views, scientific and otherwise, in the court. It is not Reserve Mining Company's decision to appeal that case to the Minnesota Supreme Court. Reserve Mining Company was and is willing to abide the judgement of that court, but since the Minnesota Pollution Control Agency has taken the initiative and action in appealing, it obviously must follow, I suggest, that a court -- a Supreme Court of the State having jurisdiction over the parties in possession of the facts is in a position to make a definitive ruling on the subject. Now, if this conference or some subsequent action comes up with a directive which is in conflict with that of the Minnesota Supreme Court, I think we are in the obvious illogical and unfortunate position of (1) being forestalled by activity which tends to minimize the opportunities to do that which Reserve Mining Company is most willing and anxious to do -- resolve this matter on a fair and equitable basis; and (2) if we get a conflict developing through the conference route as opposed to the Minnesota Supreme

Court route, then who is to take precedence? Well, Congress, as I am sure you are well aware, Mr. Stein, has already addressed itself to this possible problem saying that the State in which the discharge occurs, that agency has the primary responsibility. And so I suggest that we permit the implementation of that congressional policy by allowing the State to pursue that remedy which it has chosen to get a definitive decision, and I think we'll be closer in point of time to a solution. I am not suggesting for a moment, as I try to make clear, that everything stop until that court acts. I told the agency last Monday, I told the District Court, I have told this conference, that Reserve is more than willing to evaluate criteria to try to come up with something acceptable. But, obviously, in order for there to be any kind of a meaningful resolution, there has to be some kind of concurrent action by this conference, by the court, or agreement on some course of action that will tend to eliminate the dilemma that anybody is faced with having the possibility of one judge on one side or one administrative agency on the other side issue completely contradictory orders.

MR. STEIN: I don't think that is what I am addressing myself to. But I don't know, Mr. Fride, how significant it is who makes the appeal, because in a sense we would have to determine whether we were going to defer action under a Federal endorsement procedure by who made the appeal, whether it was the plaintiff or the defendant. I am not sure the Congress had this in mind. But I also would like to point out, that we do recognize the primary rights and responsibilities of the case, and if I recall that trial judge's comment, he did say that this case probably involved more scientific testimony than probably any other case in the history of

Minnesota. And you might recall, if you would look just at the list of the scientific witnesses, that on request we supplied to the State of Minnesota 11 of those witnesses. So we did cooperate fully with the State in its case. We would hope that in this reciprocal problem we have of water pollution control, the State is going to cooperate with this as they have in these proceedings.

MR. FRIDE: I might just suggest, Mr. Stein, and I am most aware of the distinguished Federal scientists who appeared during the 7-week trial, and I think it is significant to note that the judge in evaluating all of that testimony, in effect, suggested that his conclusion was consistent with the views held by those distinguished Federal scientists who did appear. And I think that that is a significant and an important kind of a recognition, but, actually, if we could take and eliminate some sense of the politics from this problem and rely on technical experts, I think we could reach a solution to this problem much more rapidly. And I might suggest, too, Mr. Stein, that I am not suggesting at all that the State of Minnesota be prohibited from doing that which it has solemnly assured the court and its duly elected -- duly appointed citizen members, that it wants to negotiate in good faith; it wants to try to resolve it. All I am suggesting is let's give them an opportunity to do so.

Now, I think that later on today you may have the benefit of a report from a member of the staff of the Minnesota Pollution Control Agency. I say that because Mr. Merritt was kind enought to supply me with a copy of it last evening. I think in that report there is some indication that the Minnesota Agency is not yet completely in a posture where it can definitively arrive at a conclusion. And all I'm suggesting to this conference is that in the light of the congressional policy, in the light of the position of the agency, that it wants to try to negotiate and resolve this matter in good faith, and certainly in the light of Reserve's willingness to do so, that if this were to come to pass, it could form the basis for a significant recommendation to this conference and would be consistent with both our State and Federal laws.

MR. DOMINICK: Thank you very much, Mr. Fride.

Yes, do you have a question?

MR. FRIDE: Thank you, Mr. Commissioner.

DR. ANDERSEN: Mr. Chairman, I am Howard A. Andersen, Chairman of the Minnesota Pollution Control Agency of Minnesota, and although it seems redundant now, and I didn't bring along my own cheering section, yet the Minnesota Pollution Control Agency did in truth on April 19 instruct me to make it clear to this conference that any views expressed by any of its conferees, do not express the considered viewpoint of the agency. We have not had a chance to evaluate the technical reports and have not discussed this matter in detail.

We are in a peculiar position in Minnesota. We are under conflicting orders by different courts, and this is one of the reasons I believe that we would like to make it clear that the agency has not taken a position as yet.

MR. DOMINICK: Mr. Merritt, you said that you had one further question for Mr. Fride.

MR. MERRITT: Yes, I do, Mr. Commissioner.

In connection with his report on Page 5, if I might refer to Page 5. Mr. Fride, referring to your comments of the company's position on Page 5, where Reserve states its willingness to promptly evaluate criteria and its cooperation in evaluating and considering any criteria that the conference may come up with later in the session, I find it interesting that you use these words "evaluate and consider." Would Reserve Mining Company accept the direction -- in other words, accept, not just "evaluate and consider", but accept any direction from this conference for on-land disposal?

MR. FRIDE: Well, I don't like too many medical analogies, but would you accept going to a doctor and having him tell you that he is going to perform surgery without indicating why or to what extent? I think that the suggestion that, at this point in time, before the conferees and before the Minnesota Agency have had an opportunity to enunciate what the criteria and guidance are, it would be totally impossible for me to say at this point in time that it was considered something that could be accepted or rejected without really understanding and knowing what it is and what kind of guidance is proper. I just couldn't do that, Mr. Merritt.

MR. DOMINICK: Any further questions for Mr. Fride?

Thank you very much, once again, Mr. Fride.

(Mr. Fride's statement in its entirety follows.)

I suggest we take a 15-minute recess and be back to hear the comments of the States. (A short recess was taken.)

MR. DOMINICK: Ladies and gentlemen, we'd like to hear now from the State of Minnesota and its conferees.

Mr. Merritt, Dr. Andersen, Mr. Tuveson, would you please present the position of the State of Minnesota.

# STATEMENT OF RESERVE MINING COMPANY
# TO
# APRIL 22-23, 1971 SESSION OF LAKE SUPERIOR ENFORCEMENT CONFERENCE

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My name is Edward T. Fride. I am a practicing lawyer in Duluth, Minnesota. I am appearing on behalf of Reserve Mining Company.

At the January 15, 1971, session of this Conference the Conferees concurred in the establishment of a "Technical Committee" which was charged with responsibility:

> "The Committee will consider land disposal as well as the under water disposal plan presented here and come up with its evaluation as well as its recommendations. * * * The Committee can just look at the feasibility of this kind of thing and hopefully get in touch with Reserve or any of the other parties and ask them to consult with them and see what recommendations they can come up with.
>
> "Now I think we are faced with several propositions. We are faced with the proposition of--and let's start the other way by saying we are going to entertain Reserve's proposal for under water disposal as is. We are going to entertain that and recommend it with modifications. We are going to reject it and tell them to go to a land disposal system, or we are going to reject it completely, that they have not come up with the remedial program and take appropriate action--legal action--and let the Court decide what the solution should be. * * * I would strongly urge that everyone get all their theories out on the table at least at this go-around * * *."

Responsive to the Technical Committee's request, Reserve appeared on February 3, 1971 and submitted at that time its written response to the Committee's inquiry. A copy of that response has been previously supplied to the Conferees and at this time I would like to formally make such response an exhibit in these proceedings. Statements and activities pertinent to the Technical Committee are summarized and referred to in my Affidavit submitted to the Minnesota District Court which is attached hereto and made a part of this statement. PCA Director Merritt's responsive Affidavit is attached.

By letter dated April 15, 1971, from the Environmental Protection Agency, Reserve was furnished the report of the Lake Superior Technical Committee which has just been formally presented by Mr. C. A. Johannes of the Minnesota Pollution Control Agency staff. It is noted that s[illegible]ort provides in part:

> "The Committee was unable to obtain and develop alternative disposal methods in sufficient detail to technically evaluate them * * *. It is the responsibility of the appropriate regulatory agencies to provide guidance to the discharger, in this case Reserve Mining Company, as to the acceptability of a method of disposal and, if unacceptable, to provide guidance as to the modifications necessary to become acceptable. * * * Reserve Mining Company be provided with the appropriate criteria upon which an acceptable method of disposal can be designed."

Inasmuch as the "guidance" and "criteria" contemplated by the Technical Committee has not been presented to Reserve, it would be now premature for Reserve to make an analysis and evaluation of the Technical Committee report.

The proposed agenda provides that following this statement by Reserve Mining Company there will be statements by Minnesota relative to Reserve's discharge. The Minnesota Pollution Control Agency on April 19, 1971 at its regular monthly meeting unanimously passed a Motion to the effect that the Minnesota representatives are obligated to make clear to the

Conferees that any Minnesota statements or Minnesota Pollution Control Agency staff reports which may be presented to the Conference have not been approved or sanctioned by the Minnesota Pollution Control Agency and do not reflect the policy of the Agency since any policy considerations contained in any such statements or staff reports have not been voted on by the Agency.

Subsequent to the presentation of Reserve's modification Plan to the Minnesota Pollution Control Agency on February 8, 1971, that Agency directed its staff to engage in good faith negotiations with Reserve Mining Company consistent with Judge C. L. Eckman's decision of December 15, 1970, of which a copy is hereto attached as an exhibit. The Court directed negotiation was also the subject of the appended Court Order of April 7. Reserve's Plan was formally presented to this Conference at its January 15, 1971 session.

It is respectfully requested that Reserve be afforded an opportunity to later respond during this Conference session to any statements to be made with respect to Reserve's Plan by the States, private citizens or groups, Federal or State Agencies, or the Conferees. Until Reserve is made aware of further Conference proceedings, it has not been provided with the guidance "as to the acceptability of (Reserve's Plan as presented) and, if unacceptable, guidance as to the modifications necessary to be acceptable" as concluded by the Lake Superior Technical Committee of this Conference.

It would obviously be premature to attempt any response at this time without such guidance.

The Lake Superior Enforcement Conference was convened by Notice under Section 10 (d) (1) of the Federal Water Pollution Control Act as amended (33 USCA 1160, et seq.). That Act includes a Congressional declaration of policy (33 USCA 1151 (b) and (c) ) stating:

> "* * * it is declared to be the policy of Congress to recognize, preserve and protect the primary responsibilities and rights of the States in preventing and controlling water pollution * * *. Nothing in this chapter shall be construed as impairing or in any manner affecting any right or jurisdiction of the States with respect to the waters (including boundary waters) of such States."

That Act further provides in Section 10 (b) (33 USCA 1160 (b) ):

> "Consistent with the policy declaration of this chapter, State and interstate action to abate pollution of interstate or navigable waters shall be encouraged and shall not, except as otherwise provided by or pursuant to Court Order under Subsection (h) of this Section, be displaced by Federal Enforcement action."

As the Conferees are aware, both Reserve Mining Company and the Minnesota Pollution Control Agency have expended substantial effort in the Minnesota Courts in attempting to arrive at a final legal conclusion of the controversy. The issues litigated have included whether certain interstate water quality standards are reasonable as applied to Reserve and whether Reserve is polluting Lake Superior within the meaning of the stringent Minnesota definition of pollution or is guilty of creating any nuisance by its discharge. These issues have been determined at the Trial Court level.

The Minnesota Pollution Control Agency's Motion for Amended Findings or a New Trial was denied by the Court as reflected in the attached Order of April 8, 1971. On April 20, 1971, Reserve Mining Company was served with the attached Notice of Appeal to the Minnesota Supreme Court by the Minnesota Pollution Control Agency. In making the Appeal Minnesota is obviously expressing its intention to pursue the matter to the highest Appellate Court in Minnesota for final determination. Thus until the Minnesota Supreme Court has resolved the matter Reserve is subject to possible conflicting directives and in the light of the Congressional policy evidenced in the Statute under which this Conference was convened, it is respectfully submitted that the Conference should defer further action until this Supreme Court determination sought by Minnesota is available. This is not to suggest that Reserve is at all unwilling to promptly evaluate any criteria and guidance proffered by this Conference with respect to a possible modification of its tailings system. Reserve is and has been willing to fully cooperate with all regulatory agencies. It does not, of course, wish to be in the position of obeying one of several conflicting directives at its peril. To that end and in view of the primary responsibility of Minnesota it is also recommended that the Minnesota Pollution Control Agency and Reserve negotiate with respect to a modification of Reserve's discharge as contemplated by the Court Order and the expressed desire of the Minnesota Pollution Control Agency. Any such agreement could form the basis for a Minnesota recommendation to this Conference and aid in what all well intentioned parties desire: a prompt, fair and reasonable solution to this controversy which considers the impact of the discharge on the total environment--air and land as well as water--and does not threaten the continuance of Reserve's significant contribution to this area, the State and the nation.

STATE OF MINNESOTA — DISTRICT COURT

COUNTY OF LAKE — SIXTH JUDICIAL DISTRICT

* * * * * * *

Reserve Mining Company,

Appellant,

vs.

Minnesota Pollution Control
Agency,

Respondent.

## AFFIDAVIT OF EDWARD T. FRIDE

* * * * * * *

STATE OF MINNESOTA)
) ss.
COUNTY OF ST.LOUIS)

EDWARD T. FRIDE being first duly sworn deposes and says:

1. That he is an attorney at law duly admitted to practice in the State of Minnesota and is a member of the firm of Sullivan, Hanft, Hastings, Fride & O'Brien with offices at 1200 Alworth Building, Duluth, Minnesota.

2. Affiant has appeared as counsel for Appellant Reserve Mining Company in all proceedings involved herein.

3. The decision of The Honorable C. L. Eckman rendered on December 15, 1970 in the above matter stated in part:

> "28. After 15 years of operations and discharge of tailings into Lake Superior by the Appellant, the evidence before the Court establishes that said discharge has had no measurable adverse or deleterious effects upon the water quality or use of Lake Superior insofar as its drinking water quality, any conditions affecting public health, affecting fish life or the reproduction thereof, or any interference with navigation."

Exhibit A

"29. Appellant's discharge of tailings into Lake Superior has had a measurable effect upon Lake Superior and the use thereof in regard to:

(1) The aesthetic enjoyment of the Lake by the increase of the 'green water phenomenon' both within and without the zone of discharge as described in the Permits.

(2) A decrease in the presence of Pontoporeia, commonly known as scud, in the vicinity of the zone of discharge. This fish food used primarily by smelt has had only a minimal and immaterial effect on the fish population of the Lake * * *."

"36. Pursuant thereto, adoption of such modified methods of discharge require the immediate attention of Reserve Mining Company and negotiations and study by Reserve's and Respondent's agencies, with a reasonable time to arrive at a mutually-acceptable plan between Reserve and the Minnesota Pollution Control Agency; that to insure the establishment of such a mutually-agreeable modification and to prevent a stalemate in such negotiation, it is necessary that the Court retain jurisdiction of this matter. * * *"

"* * * The Court concludes that the present method of discharge of tailings from its plant at Silver Bay, Minnesota, shall be altered and modified by Appellant Reserve Mining Company to the extent that the disposition of fine tailings into Lake Superior and the distribution thereof into areas outside of the so-called 'great trough' is discontinued."

"5. Pursuant thereto, Appellant Reserve Mining Company shall submit to Minnesota Pollution Control Agency on or before May 15, 1971, for its approval, such plans for modification as are necessary to accomplish the result set forth in paragraph 4 above. After such approval by Minnesota Pollution Control Agency, Reserve shall have two additional years in which to build, install, and put into operation such approved modified method of tailings discharge."

"6. The District Court shall retain jurisdiction of this matter for the purpose of insuring the implementation and good-faith negotiations towards a satisfactory modification of discharge and a reasonable and equitable solution of this controversy. To that end, this Court, upon application of either party, shall exercise its authority to take further evidence, if necessary, and to render a final decision therein in the event that no mutual agreement as to such modification can be reached between the parties." * * *

> "* * * In the judgment of this Court, any modification must insure the flocculation of the fine tailings and the deposit of all the tailings by conduit to the floor of the great trough, where they will remain, eliminating thereby their dispersion to other parts of Lake Superior, and elimination of complaints of aesthetic loss, net or shore slime, drinking water contamination, or eutrophication by increased algal growth. In support of this solution, the Court has gleaned from the Respondent's experts that the deposit of the tailings on the Lake floor in a relatively quiescent condition would substantially remove their apprehensions as to their effect upon the Lake's ecology, aesthetics, or navigation."

4. In accordance with the Court's decision Reserve Mining Company completed a "Plan to Modify Tailings Discharge System" which contemplates flocculation of the tailings and deposition under water by conduit of the thickened slurry. Said Plan is summarized in Exhibit A-1 attached.

On January 19, 1971, Affiant advised John Badalich, Executive Director of the Minnesota Pollution Control Agency of the completion of this Plan and submitted sufficient copies of it to him to permit preliminary evaluation by the Agency staff and members and requested an opportunity to formally present the Plan to the Agency on February 8, 1971.

A Memorandum on Reserve Mining Company dated February 2, 1971 by George R. Koonce, Acting Chief, Section of Industrial and Other Wastes of the Minnesota Pollution Control Agency, stated in part:

> "* * * The Company's consulting engineer proposes the use of hydroseparators and thickeners to concentrate the tailings with the addition of a flocculating agent. The concentrated underflow from the clarifiers will be piped some 150 feet below the surface and deposited on the lake bottom within the Company's permit zone. The tailings delta is to be stabilized to prevent erosion of fines into the lake.
>
> There are advantages to this plan over the present method of disposal. The increased density of the tailings stream will create a stronger density current which will help to carry tailings toward the bottom. There will be fewer

> fines in the effluent so there should be less dispersion of material away from the discharge point, either vertically or horizontally. Because the outlet will be 150 feet below the surface of the lake, wind and currents should not have as great an effect on the drift of the tailings. Thus, a smaller area of the lake bottom will probably be covered with tailings. The proposed method would bring a lesser amount of fine tailings in contact with fresh lake water and thus the rate of solution of the solids might be reduced. * * * "

5. In accordance with said Court Order, Appellant on February 8, 1971 presented to the Minnesota Pollution Control Agency the "Plan to Modify Tailings Discharge System" hereto attached as Exhibit A-1. During the course of the discussions which followed the presentation of the Plan, Reserve Mining Company through Kenneth M. Haley, its Vice President and Manager of Research & Development, presented a "Summary" of various other concepts of tailings disposition which is attached hereto as Exhibit A-2. Following Reserve's presentation the Agency members discussed the necessity of an evaluation including impact of various concepts on the total ecology--land, water and air--and instructed its technical staff to evaluate Reserve's Plan, possible modifications of it or any alternative plan presented. Such evaluation was to occur by and through Respondent's representatives on the "Technical Committee" of the Lake Superior Enforcement Conference and also apparently independently. Specifically the staff was instructed to refrain from making or following political judgments and to honor Judge Eckman's directive to proceed in good faith and negotiate with regard to Reserve's Plan. Attached as Exhibit A-3 is an excerpt from those deliberations and instructions. Attached as Exhibit A-4 are the views of one member of Respondent.

6. On January 15, 1971, Reserve Mining Company presented to the reconvened session of the Lake Superior Enforcement Conference its "Plan to Modify Tailings Discharge System" previously identified as Exhibit A-1. During the Conferees' deliberations which followed the Plan's presentation, Dr. Donald Mount, Director of the National Water Quality Laboratory, of the Environmental Protection Agency was asked to comment on the Plan by the Chairman and other Conferees. Excerpts from his comments are attached as Exhibit A-5.

7. At the commencement of the January 14, 1971 Session of the Lake Superior Enforcement Conference, Minnesota Governor Wendell Anderson stated, before Reserve's Plan had been submitted or described to either the Conferees or Respondent, that:

> "Last August when I was here, I indicated that if the Conference found interstate pollution I felt it would be most appropriate if they would issue a proper order indicating that Reserve Mining would have to provide appropriate facilities on-shore, and I also indicated I felt that a very specific time table should be adopted."

8. On January 15, 1971, the Conferees convened in Executive Session and concluded that the Conference would establish a Technical Committee. The Chairman and representatives of Minnesota, Michigan and Wisconsin concurred in a charge to the Technical Committee which is attached as Exhibit A-6.

9. The Technical Committee held meetings in Minneapolis, Minnesota on January 26, February 2-4, 11, 23, and March 5, 1971.

On January 27, 1971, the Technical Committee sent to Reserve Mining Company a table requesting Reserve to evaluate alternate disposal methods and further requesting Reserve to appear before the Committee on February 3, 1971. Reserve Mining Company appeared before said Technical Committee on February 3, 1971 and submitted at that time its response to the Agency's inquiry which is hereto attached as Exhibit A-7. During all other sessions of the Technical Committee Affiant is informed and believes that no other Plan for tailings modification or change was presented to the Committee by any of the individuals or groups who chose to appear.

10. On March 5, 1971 Grant Merritt, newly appointed Executive Director of the Minnesota Pollution Control Agency, informed the Committee that, as the official representative of Respondent, he would refuse to endorse, recommend or participate in any Plan or modification that did not completely eliminate any discharge of water containing any amount of Reserve's taconite tailings to Lake Superior. He stated that he would only endorse or participate in a Plan or recommendation that precluded any discharge to Lake Superior, Minnesota rivers, streams, surface or ground waters which could in any way reach Lake Superior. He said this prohibition was absolute regardless of any effect on receiving waters and regardless of whether such discharge complied with all existing Minnesota laws and regulations of the Minnesota Pollution Control Agency.

Mr. Merritt stated that any contrary views previously expressed by Minnesota representatives to the Technical Committee should be disregarded as they did not now represent the "new" policy. He said further that any prior statements by the Minnesota Department of Natural Resources, formerly the Minnesota Conservation Department, that that Department was opposed to a method of disposal of tailings on land in the Lax Lake area because of safety hazards and the impairment to land uses in that region should be disregarded and he would confer with the Commissioner of that Department so as to obtain a change in such position.

When informed by the Secretariat and other members of the Technical Committee that even tentative concepts presented to the Technical Committee by the Minnesota Environmental Control Citizens Association, Save Lake Superior Association, and Northern Environmental Council could not meet the newly announced policy of "zero discharge" Mr. Merritt responded by stating that "zero discharge" was the policy and no water from any source containing any amount of Reserve's tailings would be permitted to reach Lake Superior or any rivers, ground waters, surface waters which might lead thereto.

Affiant was in attendance at said Technical Committee session as an observer and attached as Exhibit A-8 is Affiant's Summary of some of those proceedings.

11. Wisconsin representatives to the Technical Committee submitted a report attached as Exhibit A-9 which states that Wisconsin rejected Reserve's Plan and refused to consider any modification to it allegedly premised on the Wisconsin Statute prohibiting the deposition of "stone or sand" in waters within the jurisdiction of Wisconsin. Wisconsin, like Minnesota and Michigan, has a Permit system which when complied with authorizes deposition of materials in State waters. Exhibit A-10 is a memorandum prepared by Affiant which questions the legal sufficiency of Wisconsin's position.

12. The Michigan representative to the Technical Committee included Reserve's Plan as among the "recommended methods" as reflected in Exhibit A-11. Preliminary drafts of the Technical Committee deliberations prior to the position taken by Mr. Merritt

as described above are appended as Exhibits A-12, A-13 and A-14.

13. In support of the Motion herein reliance is placed on the deposition of Grant Merritt, an attorney appointed as Executive Director of the Minnesota Pollution Control Agency on March 1, 1971, and on the deposition of Lovell Richie, Assistant Director, Division of Water Quality of the Minnesota Pollution Control Agency, who is a member of the tehnical and scientific staff of the Agency and has been so employed by Respondent and its predecessor continuously since April, 1958.

Mr. Merritt testified that he had no formal education or experience in the sciences involved with the ability to analyze or judge the impact of alleged pollutants on the environment; that he has never inspected or visited Appellant's plant or the mine or plant of any other iron ore or taconite producing facility in Minnesota or outside of Minnesota; that he has never inspected or visited any tailings pond or basin utilized for on-land deposition of tailings either in Minnesota or outside of Minnesota; that he has not analyzed Respondent's records and studies disclosing the monitoring and surveillance of Appellant's discharge which has been conducted by Minnesota Agencies prior to the commencement of Appellant's operations and since; that he did not claim any technical, scientific expertise in either determining or analyzing or weighing effects of alleged pollutants on the environment; that he refused to answer whether he would place reliance on people with technical, scientific expertise in such fields to give him knowledge and understanding about such subjects; that he refused to answer whether he would place any reliance on the technical staff of Respondent in reaching scientific judgments about effects of alleged pollutants on the environment; that he regards Judge Eckman's decision of December 15, 1970 with respect to the submission of the Modification Plan and good faith negotiations with respect to it as simply a "suggestion of the Court" rather than an Order; that he has not reviewed Reserve's Plan appended as Exhibit A-1; that he has not requested any analysis of Reserve's Plan from any staff member of Respondent or any consultant whom he deems qualified to express an opinion with respect to it; that he has not sought nor does he deem it necessary to secure the approval of a majority of the members of Respondent prior to taking the position which he claimed was an official one of the Respondent at the March 5, 1971 Session of the Technical Committee described above; that the views which he expressed to said Technical Committee are views which he has held for many years as an active leader in various conservation groups; that he knows of no plan in any written form for total on-land deposition of Reserve's tailings except the Bureau of Mines Plan presented as a part of the Stoddard report and upon which Mr. Merritt places reliance; attached as Exhibit A-15 are excerpts from said Bureau of Mines report; that he knows of no other municipality, industry or other entity which may discharge an effluent that is subject to the same prohibition as Appellant's as reflected in the "policy" stated by Mr. Merritt to the Technical Committee and others; that he knows of no other discharger in Minnesota which is subject to an absolute prohibition on its discharge to Minnesota waters regardless of whether the discharge meets all effluent requirements and all legal regulations and statutes in the State; that he was unable to identify any individual who was technically qualified whose views he would accept on the alleged pollutant effects of Reserve's discharge on Lake Superior but that he regarded any layman's views as entitled to the same weight which should be accorded the views of Dr Donald Mount, Director of the National Water Quality Laboratory; that he declined to answer questions relating to whether Mr. Merritt drafted the letter which Governor Anderson sent to General Clarke appended as Exhibit A-16;

That Lovell Richie testified by way of deposition that he had been familiar with Reserve's discharge and the studies and investigations of it made by Respondent since 1958; that he concurred with Dr. Mount's views as expressed in Exhibit A-5; that the Technical Committee had not had any plan presented to it for on-land deposition of Reserve's tailings so as to permit an evaluation of the impacts of such a concept on the total environment; that Wisconsin representatives relied on the Wisconsin Statute described above and that Minnesota representatives felt bound by the position taken by Mr. Merritt of "zero discharge"; that Mr. Richie's evaluation of Reserve's Plan was such that if it were modified by appropriate testing of flocculents and re-circulation of the overflow clarifier discharge to the maximum extent practicable consistent with Reserve's operation that the Plan as modified would satisfactorily meet the concerns raised about Reserve's discharge.

14. The foregoing described actions and other activities revealed in the depositions filed in this matter disclose that the

new Executive Director of the Minnesota Pollution Control Agency has attempted to usurp the legal functions, powers and duties of the Respondent Agency as vested in said Agency by Minnesota Statutes 115.03, 115.04, 115.05, 115.42, 115.43, 115.44, 115.45, 115.47, 116.07, et al. Said actions preclude objective analysis by either the Minnesota Pollution Control Agency, the Technical Committee or the Conferees to the Lake Superior Enforcement Conference. Such actions represent political judgment not based on fact and constitute illegal prohibitions and regulations. Said actions are apparently designed to except Reserve Mining Company from application of and protection of Minnesota Statutes and Regulations as well as to nullify the Court's decision herein. Said actions unlawfully discriminate against Reserve Mining Company when compared with all other dischargers in the State of Minnesota. Said actions also seek to cause an illegal modification or revocation of Reserve's Permits duly issued by the Minnesota Water Pollution Control Commission, the Minnesota Department of Conservation and the Corps of Engineers. Said actions further attempt to prohibit Reserve's discharge under the guise of unauthorized executive and administrative regulation, and wrongfully interfere with valued property and contract rights of Appellant.

15. On March 8, 1971, the Minnesota Pollution Control Agency held its regularly scheduled monthly meeting. Despite the passage of some 30 days since Reserve's formal presentation of its Modification Plan, the Agency has taken no action with respect to Reserve's Plan except through the acts of its new Executive Director described above and hence it is doubtful that the Agency will engage in good faith

negotiations contemplated by the Court's Order herein.

Appellant has advised Respondent of its willingness to submit proposed flocculents to extensive governmental testing, analysis and approval as well as to consider possible modifications in Reserve's Plan relating to the clarifier overflow water and other aspects of the contemplated discharge. The position of the Executive Director that only "zero discharge" would be authorized, however, compels the conclusion that no modification of the proposed Plan would be acceptable and hence the Court should, in Appellant's view, exercise the jurisdiction retained herein to order a modification consistent with its decision.

16. During his deposition Mr. Merritt testified that he would attempt to convene hearings before the Minnesota Pollution Control Agency on the question of whether Reserve was violating the Permit issued by Respondent's predecessor, the Minnesota Water Pollution Control Commission, within six months from March 1, 1971. Attached as Exhibit A-17 is an analysis by Respondent's Technical Staff of the issue of whether Reserve is in violation of such Permit.

Further Affiant saith not save that this Affidavit is made in support of Appellant's Motion for Order Rendering Final Decision.

Edward T. Fride

Subscribed and sworn to before me
this 2[illegible] day of March, 1971.

## SUMMARY

Of numerous tailings disposal concepts investigated by Reserve's Engineering Task Force, "on-land" deposition received considerable attention. Other taconite producers in Minnesota, other states and other countries utilize the method. Reserve's original concept in the late 1940's called for the use of an on-land tailings basin near the mine. In fact, the 1920-1924 taconite plant operated unsuccessfully at Babbitt, Minnesota, by Mesabi Iron Company deposited its tailings on land, the common, accepted practice in mineral processing for decades. Reserve itself re-equipped that old plant and operated it as a small pilot plant to train personnel, test equipment and processing methods, utilizing a low-lying, swampy area there for tailings disposal, even though it had become clear that two features of the Babbitt area would force Reserve to an unusual and more expensive system.

The first factor was the lack of sufficient water to sustain as large an operation as Reserve contemplated. The processing of Reserve's taconite into iron oxide pellets requires a minimum of 55 tons of water for each ton of pellets. This can be "new" water or reclaimed, recirculated water. The Babbitt pilot plant experience showed that a closed-circuit water system would require a minimum of 7% new water, Therefore, water and not the ore is the largest raw material required. Reserve's mineral deposit at Babbitt is on the Laurentian Divide where there is insufficient water for a processing plant the size of Reserve's--even though this would have been the preferred location from a cost standpoint. This was one of the two principal reasons why Reserve was forced to transport the crude taconite mined at Babbitt 47 miles to Silver Bay for processing--resulting in increased capital and operating costs for the railroad, ore handling equipment, two separate industrial installations, towns, etc., with attendant duplication of certain activities and facilities.

The second factor that prevented Reserve from building its processing plant beside the mineral body at Babbitt was that no suitable land area was available in the region which was large enough to impound the tailings Reserve would produce.

This was documented in the extensive permit hearings held between 1947 and 1960, and recently confirmed by Judge C. Luther Eckman's finding:

> "The principal reasons for the location of (Reserve's) plant at Silver Bay rather than the mine site near Babbitt were the lack of necessary water, the lack of an appropriate area for tailings deposition at the mine site ***"

For these reasons, Reserve built its processing plant on the shore of Lake Superior, after extensive investigations were made by Reserve and the appropriate governmental agencies to assure that the discharge of tailings into the lake would have no material adverse effect on the quality of the water, on aquatic life or any of man's beneficial uses of the lake.

Other Minnesota taconite operations have large, low-lying areas in the vicinity of their processing plants which are suitable for tailings disposal. These areas do not have any appreciable amount of natural surface water draining through them, nor do they require high dams or dikes to impound water and tailings. The many square miles they cover were primarily wastelands and bogs upon which little vegetation grew. In contrast, the terrain near Silver Bay is rugged and so hilly that great dams would be required to form an impoundment. The construction of dams would be unusually expensive and difficult since the area is so rocky and little natural dam building materials are found in the area. Further, the closest area (encompassing Lax Lake) is not below or on the same level as Reserve's processing plant. Instead, it is about 800 feet higher and about five miles distant--posing additional problems of great magnitude for engineers, operators and ecologists.

The plan Reserve proposed on January 15 is unique and imaginative in some respects--huge thickeners and hydroseparators, the piping, pumping and flocculating of great volumes of water and solids, the recirculation of clarified water into the harbor and thence into the plant. But these considerations exist in the "on-land" tailings disposal schemes, as well. The only segment of the plan which is not duplicated in the on-land schemes is the buoyancy-controlled pipes which will convey the tailings into deep water to form the sand reef 150 feet below the lake's surface. However, such pipes are available on the market today and the technique is being used elsewhere successfully.

The plan proposed by Reserve on January 15 does not require as much capital investment nor annual operating cost as some of the schemes investigated by Reserve's Engineering Task Force. But it is not the least expensive; two other proposals would have been much less costly.

During the past two years, the entire Silver Bay-Babbitt region was carefully studied for potential on-land disposal sites by Reserve's Engineering Task Force.

One or more of the nationally-known engineering consulting firms --members of the Task Force--actually investigated ten different "on-land" disposal concepts. These and all other proposals were carefully considered before Reserve selected and proposed on January 15 the plan it believes to be best from an environmental, technical and economic standpoint.

Eight of these ten "on-land" investigations made by Reserve's Engineering Task Force involved the Lax Lake area. One study concerned depositing the tailings along the lakeshore. The other called for returning the tailings to the eastern Mesabi Range. Some of the disadvantages of each of these ten plans are cited briefly below.

## LAX LAKE AREA

1. This area is prime hunting, fishing, recreation and resort country.
2. Seasonal and year-around homes near the lake would be covered by tailings. Lax Lake itself would cease to exist and would become a part of the large tailings basin.
3. The drainage from the 71-square mile watershed which flows through this area would exceed Reserve's process requirements, so excess water (containing unsettled very fine tailings) from the basin would have to be released to the Beaver River and thence to Lake Superior. Much of the year these tailings would enter Lake Superior at the

surface--without the benefit of a heavy density current. These fine particles would likely remain in the surface waters of the lake and be carried by surface currents and be dispersed over a wide area of the lake before they settled naturally.

4. The tailings deposited as an underwater reef would be in contact with the neutral to slightly basic water of Lake Superior. Thus, practically no elements would go into solution. In contrast, the water of the Lax Lake area is slightly acid and could leach some of the elements from any tailings deposited there. These dissolved solids leached from tailings would enter the Beaver River and then flow on into Lake Superior.

5. The lower pH (slightly acid) water from the tailings basin would enter the ground waters of the area carrying with it more dissolved solids from tailings deposited there.

6. Dust from blowing tailings could be expected to cover a wide area.

7. Two of the eight proposals involved hauling coarse tailings containing 18% moisture in electrically-heated, insulated railroad cars to prevent freezing during winter months. This concept and the proposed equipment are new and untried and extensive pilot testing over at least three winters would be necessary before implementation could be considered.

8. In three of these Lax Lake studies, coarse tailings containing 18% moisture would be stockpiled on the present tailings delta during the winter months to avoid cold weather handling problems. These tailings would be reclaimed during the summer months and hauled in conventional equipment for disposal. We believe these piles of coarse tailings with 18% moisture would freeze solid during the winter. It is questionable whether this frozen tailings stockpile would thaw sufficiently in the summer months to permit reclamation. Any such practice would require large scale testing before it could be considered feasible.

9. A Lax Lake area tailings basin, high upstream from the Beaver Bay-North Shore region, could present a safety hazard. A huge system of dams and dikes--among the largest in the world--would present the constant threat of leakage or rupture.

10. Upon depletion of Reserve's mineral body (approximately 40 years), a Lax Lake tailings basin would be nearly full and in a short time natural surface drainage from the 71-square mile area would overflow the tailings basin with rains and spring thaw, carrying some fine tailings into the Beaver River and Lake Superior, in spite of efforts to vegetate the area against erosion.

11. The same type thickening system would thicken the tailings slurry for pumping to the impoundment area as would

be used for pumping the tailings to an underwater reef. The same type and amount of flocculants would be used and the thickener overflow would be handled in the same manner through Reserve's harbor. Thus, any objections raised with respect to the use of flocculants in Reserve's plan would apply to these on-land tailings basin systems.

12. Incomplete capital costs for these on-land disposal systems range from $44,100,000 to $195,138,000. Annual expenditures for on-land tailings disposal proposals range from $7,823,000 to $27,284,000. Few, if any objections to Reserve's present or proposed disposal methods would be relieved.

13. Construction times for these on-land disposal facilities would range from five to six years. As noted in Reserve's report, the underwater reef disposal system could be operational within two years after approval by the proper regulatory agencies.

14. Most on-land disposal systems in use by other taconite operators have some alternate means to discharge tailings in the event of an emergency. However, the only emergency discharge of tailings available to Reserve would be to Lake Superior.

## DISPOSAL OF TAILINGS IN OR NEAR A MINE ON THE MESABI RANGE

A number of persons have proposed that Reserve's tailings be hauled back to the Mesabi Range and deposited in open pits. It is obviously impossible to use any active open pit mine for such deposition and most exhausted natural iron ore mines represent a "bowl" of taconite which, hopefully, will someday be processed by others. So it would be foolhardy to fill these pits with tailings. However, members of Reserve's Engineering Task Force investigated use of an area near Reserve's mine (but not controlled by Reserve) for the deposit of tailings produced at Silver Bay.

Some assume that simply because the hopper cars which haul the taconite to Silver Bay return to Babbitt empty, they would be able to carry tailings back to the ranges. However, important factors are overlooked. Babbitt is approximately 47 rail miles away from Silver Bay and more than 700 feet higher in elevation, and one section of the railroad is more than 900 feet higher than the Silver Bay car dump location. Thus, the loaded ore cars proceed down-grade from Babbitt and the empties return up-grade. Therefore, only about one-third as many loaded cars could be hauled from Silver Bay back to Babbitt with same horsepower. Thus, much additional equipment would be required to rail haul tailings from Silver Bay to Babbitt.

Obviously, Reserve's total discharge (water and tailings) cannot be transported by rail to Babbitt, as others have suggested. So much water is used that the tailings constitute only a tiny per cent of the total discharge. Piping such a volume of liquid so far and so high would be out of the question even if there were no "freeze-up" problems.

However, one of the Task Force investigations called for removing most of the water at Silver Bay, leaving the tailings with about 20% moisture. The first step of this moisture removal would involve thickening equipment very much like that proposed in the underwater reef plan. Flocculants would be used in these thickeners to clarify the water. After thickening, the tailings would be filtered. Both the clarified water and the filter water would be discharged into the harbor, then pumped back into the process plant.

Filtered tailings would be hauled by railroad cars to an area adjacent to the Babbitt mine where thaw shed equipment would be required to thaw out frozen cars during winter operation. Further engineering has indicated that the preliminary estimates of capacity of the thaw sheds was inadequate. Far larger thaw sheds would be needed, or the freezing would have to be prevented by designing equipment to dry the tailings to about one per cent moisture at Silver Bay. Another alternative would be to use electrically-heated, insulated railroad cars to haul the wet tailings during severe cold weather months. Such equipment does not exist today. In either case, three winters would be required for pilot engineering investigations and trial periods to develop satisfactory means of handling tailings with 20% moisture during severe winter weather.

Stacking conveyors would be used to deposit these tailings on land in layers approximately 50 feet deep. Although trees, grass and shrubs would be planted on the tailings as soon as possible, the very nature of the operation would leave large areas exposed to wind before this ground cover could grow and develop sufficiently to prevent blowing dust storms. The resulting dust problem would be quite severe in a wide area near Babbitt.

Further, the site itself has swamp water draining through it and these slightly acid waters would leach elements from tailings piled there. This area drains into the Dunka River, into Birch Lake and into the Border lakes.

The area selected for piling these tailings is far too small to accommodate all tailings that would be produced during the life of the Babbitt mine. There were so many other unsatisfactory factors about this proposal that engineering was suspended without investigating other areas. It probably would be necessary to go as much as 15 miles south of Babbitt to locate an area large enough to be considered as a possible site. This region is also swampy, however, and drains into Lake Superior, so the same disadvantages with respect to dissolved solids would apply.

Three years would be needed to construct these facilities after a three-year period of engineering, investigation and pilot trials. Thus, the earliest such a system could be operational would be six years.

Preliminary estimates place incomplete capital expenditure for such an on-land tailings scheme at about $74,132,000 and the estimated annual expenditure in excess of $12,000,000. Clearly, from an environmental, technical or economic viewpoint, such a plan would not be feasible.

## LAKESHORE TAILINGS PILE

Another of the investigations concerned a high tailings pond to be built on land on the lakeshore. In this proposal exactly the same thickening equipment and the same flocculating agent would be used as is proposed for the underwater reef plan. The thickener overflows would go into the harbor before pumping back for recirculation into Reserve's plant, just as is planned in the Reserve underwater reef plan. Coarse tailings (+150 mesh) from the scalper hydroseparators and the hydroseparators would be pumped to the lake's edge to make additional land upon which the fine tailings would be deposited. This would produce three miles of tailings beach exposed to wave action which undoubtedly would mean fine tailings would be constantly entering in the surface waters of the lake.

The fine tailings (-150 mesh) from the four thickeners would be pumped to movable cyclone classifiers around the edge of this entire area. The coarse discharge from these clones would be used to increase the height of the periphery around the area, and the fines would be discharged toward the center where they would settle. Water would be drawn from these impounding areas through decant towers into Reserve's harbor adjacent to the plant water intake. Before the high edge could be built, the tailings would have to be dried, thus about two-thirds of the tailings deposited in the area would be dry at all times, causing an almost continuous blowing dust problem over many miles in the vicinity of Silver Bay. No one could live in the community, in all probability. Also, this dust would blow out over the lake. Entering the lake in this manner, these fine wind-borne tailings would stay in suspension for a considerable time before settling.

These tailings piles would ultimately reach a height of 280 feet above the lake level, which is higher, for example, than Palisade Head, one of the scenic cliffs on the North Shore. They would tower about 200 feet higher than the roadbed of Highway #61. The tailings pile between the highway and the waters of the lake would be 2-1/4 miles long. In spite of the best efforts to grow vegetation on the slopes of the tailings piles, they would be extremely unsightly along the shore of Lake Superior.

A partial estimated capital cost for this proposal was $31,369,000. The estimated average annual expenditure would be $5,477,500.

Under this proposal, far more tailings would be entrained in surface waters of the lake than at present. Also, wave action and surface waters of the lake would be constantly "weathering" tailings and eroding the face of the coarse tailings "dike."

Critiques by independent consultants of on-land tailings deposition methods are contained in the Appendix, pages 68 - 80.

Photographs showing some of the areas which would be engulfed by a tailings basin in the Lax Lake area, and showing the height of Palisade Head as contrasted with Highway #61, Silver Bay and Lake Superior are contained in the envelope at the end of the Appendix.

Concern for total ecological effects of any method of tailings disposal must be the paramount consideration. On that premise, it is respectfully submitted Alternative Method of Disposal Number 2 should be the recommended solution.

MINNESOTA POLLUTION CONTROL AGENCY
REGULAR MEETING
BOARD ROOM OF OFFICE BUILDING
717 DELAWARE ST. S.E.
MINNEAPOLIS, MINNESOTA 55440
FEBRUARY 8, 1971

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(The following discussion occurred subsequent to a presentation by Reserve Mining Company of its plan to modify tailings discharge, and following questions by the agency members and staff of Edward T. Fride, attorney for Reserve Mining Company, Kenneth Haley, Vice-president and Manager of Research and Development of Reserve Mining Company and Dr. Leon W. Weinberger, Reserve Mining Company Environmental Consultant.)

Exhibit A-3

* * *

MR. TUVESON: Mr. Chairman.

CHAIRMAN ANDERSEN: Mr. Tuveson.

MR. TUVESON: I don't think we can just sit idly by while all these things are going on around us. I think we have three problems and I was concerned with them at the beginning of the hearing this afternoon and I'm still concerned with them.

I'm concerned first because the Court in Lake County did direct us to explore the problem with Reserve Mining Company and look at some alternatives and, to use the language, "Proceed in good faith and negotiation".

I think that we have to do this. I think that whatever we do has to be taken in light of what the Attorney General has done and is doing.

I think, however, the Attorney General is interested in some of the scientific problems involved.

If we go to on-land disposal there may be other air and land pollution problems that we don't have now with under water deposition.

I don't think at this point that I'm ready to make a judgment either way.

I'd like to be able to make just a political judgment of what the people say, kind of an easy way to come out. I'm also aware of the Federal and State Conference, the Enforcement Conference now that has appointed a technical committee. We have staff members on that technical committee.

I think, Mr. Chairman, that our staff should make a detailed evaluation of this plan that was presented to us today.

I think they should also make an evaluation of available information as to the desirability or lack of desirability of on-land disposal in the Lax Lake area or back in the area of Babbitt somewhere. I think the staff could pull together some of the information that's being gathered by the Federal and State Conference.

I think it would be helpful to the Attorney General. I don't think it means that we're backing off from the position we've taken in Court that we believe our standards apply to Reserve Mining Company, I wouldn't want to imply that in any way.

I don't think we should tell the staff

either that we expect them to come up with an answer, but if they don't have enough information I would expect they would be objective enough about it to say that "We don't know enough about on-land disposal now so that we can't recommend it", or if they do think there's enough information, they should recommend it.

If they don't have enough information, they should tell us so we can either get it ourselves or tell someone else to get it.

I don't think we can mark time. I think the staff should stay right with the problem. I guess --

I don't know how to put all this into a motion. Maybe it isn't necessary, but I think the staff should be proceeding along those lines.

DR. BORTCHART: Mr. Tuveson, I gather what you are saying is that you feel that in line with the expressions from several members of the agency here this afternoon, that we don't feel ready to make a judgment on this, that we should be provided with continuing staff advice and input, and that the only way for us to get that is for the staff to continue to work with us on this.

MR. TUVESON: That's right, I don't think we can make a political judgment and reject the present system or the proposed system of discharging tailings into that lake unless we know what the alternative is.

DR. BORTCHART: Mr. Chairman, along this line I'd like to express a judgment simply as one member of the agency.

I would hope that the agency and the staff are not at this time committed by anything that's been said up to know, committed irrevocably to land disposal of these wastes.

It seems to me that if one looks at the law that created this agency, there is language in there about land use, questions and issues that are related to pollution abatement and control.

I think we've got a very serious land use question involved here. It was implied in some of the discussion earlier this afternoon, and I think it should be pointed up, we have a long history of land disposal of tailings and wastes on the Mesaba Range.

As one looks ahead to the taconite epic that lies ahead of us over the next half century, or perhaps even several centries for all anyone knows, it's perfectly obvious we are talking about a very large future deposit of tailings in the vicinity of the Mesaba Range.

I think that there are some que stions that have to be faced as to how these tailings are going to be handled, what kinds of lands are going to be zoned to accommodate them.

At the same time it seems to me if we are considering, as an alternative to disposition in Lake Superior, going back up to Babbitt, which is on the Mesaba Range and which would be simply a continuation of the trends that are already there, that's one thing, but if we are talking about land disposition in the Lax Lake area or anywhere else in the Finland State Forrest and Superior National Forrest, I think we are talking about moving a very large part of a problem that so far has been confined to the Range, moving it down into one of the most scenic areas of the Middlewest.

I think there is a real issue here as between under water disposition and land disposition somewhere on the North Shore, and I for one would not be ready at all to enforce some kind of a position that pinned us into a corner in favor implicitly of a land solution and against a water solution at this point.

I think that the evidence that would persuade me that this was the route to go is simply not in. In fact, we haven't even talked about some of the most important questions, in my judgment.

I would be very anxious to support Bob's concern that the staff continue to study this, continue to advise us and, secondly, that the staff keep in mind the legistlative language in our own bill that created us that talks about land use, because I think it's one of the major questions in this particular matter.

MR. HARRIS: Just one question, did our commitment with the Federal and State Conference, did that commit us to anything in advance?

MRS. NELSON: As I remember it, Mr. Stein specifically made the point that our minds should not be closed, or that the technical committees minds should not be closed to any alternative until all segments were examined, that we should not cure one problem and create a worse one.

I think that's some of the things that Professor Bortchart was referring to, some of the things he had in mind, and along with that, when you put it on land, what effect does this have leeching back into the lake?

Can that be controlled as compared to what you are doing?

As they say, we just don't have enough evidence of all the alternatives. It's easy to say "should we stop doing this?", but would the other thing be worse?

I agree we need much more information on the whole matter.

MR. TUVESON: Yes. I'd like to have someone kind of put this problem of the entire environment up there in one package so that we could better weigh the pros and cons.

I'm not sure that it's fair to ask Reserve Mining Company to develop those figures for us because, well, I guess we don't place too much creditability in them, at least that's traditionally our approach.

Maybe the agency members themselves can come up with some way to approach this problem in an objective fashion. John, I would think that would be of your line.

DR. BORTCHART: I would think this could be done, particularly if the full resources of the various state agencies are utilized, people from the Department of Natural Resources, Geological Survey, as I'm sure the staff will do.

I would think that there are a lot of resources around within the state agencies that could be brought to bear on this question.

Again I feel very strongly that if some of the very simply flat out statements that have been made about this solution were followed, it would lead to a real disaster.

I'm very anxious that we do everything we can to make sure that the solution that is arrived at here is an optimal one.

MR. GADLER: Mr. Chairman, Mr. Koonce prepared a memo here which everybody seems to have ignored.

MRS. NELSON: I read it.

MR. HARRIS: I got it all marked up.

MR. TUVESON: But he states, "If this plan is adopted the agency would have to grant a variance from the effluent standards of Regulation WPC 15".

MRS. NELSON: You and I discussed that at some length just a little bit ago.

MR. GADLER: Are you considering that?

DR. BORTCHART: Well, yes, I'm considering it.

MR. GADLER: I just wondered, you'd rather pollute the water than the soil?

DR. BORTCHART: That's not what I'm saying, I'm saying when we consider the application of WPC 15 to this problem, I might decide that there are some specific changes in the wording of it that are called for.

I think it may say some things about this problem that we really don't want it to say; I'm not talking about polluting the water.

MR. GADLER: If there's something that should be brought out, certainly it should be brought out.

DR. BORTCHART: That's why I'm concerned.

MR. GADLER: We don't want to keep anything secret.

MRS. NELSON: Bob wasn't talking about keeping anything secret, he was talking about the staff pursuing and informing us which is quite the opposite of keeping anything secret.

MR. GADLER: I think the staff should pursue it. I don't know why this wasn't brought up.

DR. BORTCHART: It's been brought up by you.

MR. GADLER: I just brought it up.

CHAIRMAN ANDERSEN: Is that enough of a directive? It seems to me it is. Is that enough of a directive to the staff, Lyle, Mr. Smith?

(Chairman Andersen referring to Mr. Lyle Smith on the PCA Staff.)

* * *

MRS. NELSON: Let's take up the next matter.

* * *

STATE OF MINNESOTA)
)ss
COUNTY OF HENNEPIN)

BE IT KNOWN that I took the foregoing hearing on said date and at said place; that I was then and there a Notary Public in and for said County and State; that this transcript is a true record of the foregoing proceedings as taken by me and transcribed under my direction.

WITNESS MY HAND AND SEAL THIS 9TH DAY OF FEBRUARY, 1971.

David A. Soulis
DAVID A. SOULIS
Notary Public, Hennepin County, Minnesota
My Commission Expires February 28, 1976

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Reserve Mining

JAN 20 1971
GENERAL OFFICE
MINN. POLLUTION
CONTROL AGENCY

DIR.
ASST.
FILE

January 19, 1971

Mr. John Badalich, P.E.
Minnesota Pollution Control Agency
717 Delaware Street, S.E.
Minneapolis, Minnesota 55440

Subject: LAKE SUPERIOR HEARING, January 14 - 15, 1971
Re: RESERVE MINING COMPANY PROPOSAL

Dear John:

Because of a cold, I was not able to attend any of the sessions but read the news reports with interest. I was encouraged by the fact that Reserve came in with a proposal, which shows substantial progress has been made in the past two years since hearings were first held. As you know, my philosophy has always been that the object of the game is the prevention of pollution. Many of the environmental groups will not accept this premise unless the method used is one which they have promulgated. I liked Murray Stein's remarks at the beginning of this conference re same when he said to the effect, "Let's not prejudge before we hear the story." (Not a direct quote.)

Now a committee - of which you are one member - has been appointed to evaluate Reserve's proposal. Basically it must be judged on its merits, but a few considerations are pertinent.

1. Reserve has made a proposal (this came hard).
2. It is Reserve's money which will be spent.
3. They can't afford to spend so much if it doesn't provide a successful solution to the problem.
4. Failure gives them practically no salvage for equipment to be used otherwise (such as land based disposal).
5. There is no near land on shore available.
6. Proof of rapid pollution in the Lake by their present disposal manner has not been made.
7. Proof of a slow pollution in the Lake is still a matter for great argument, but we can't afford to take the long-range chance that drifting colloidal fines may be harmful.
8. The size of the "Great Trough" depository is many times more than ample to hold all the wastes.
9. If the new system doesn't provide containment in the Trough, Reserve is the loser because four years from now they would have to build another system or modify this one.

Exhibit A-4

10. Minnesota should not argue with Judge Eckman's ruling re granting a Variance on our Turbidity Standard. It serves a purpose and he did not void it with regard to others.

11. Economic changes are inevitable so a few years hence both Reserve and the People of Minnesota may see things differently, but as of the present Reserve needs the taconite production facility, Minnesota needs the payrolls and new dollars brought into the state. They are all taxed at least three times, you know: Business Taxes, Income Taxes, and Sales Taxes. Also one more - Real Estate Taxes on employees' homes for schools, but if the plant closes, they won't be needed.

12. The above eleven items add up to "give 'em a chance."

I want to add that I think Albert Dickas' research project on the Lake near Duluth would evaluate colloidal drift of tailings, if any, as well as evaluate South Shore claybank losses and be extremely valuable with regard to determining lake currents. Minnesota, Wisconsin and Michigan might each benefit $6,600 worth to finance the $20,000 project.

I am sending a copy to our conferees, Howard and Bob, as well as my friend, Donald Mount.

With best regards,

Sincerely,

Mace

Mace Harris

MVH:en

P.S. I write this as my position as a member of MPCA as well as privately with no interest in Reserve.

Mace

Proceedings - Lake Superior Enforcement Conference - January 15, 1971 - Duluth, Minnesota

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Dr. Mount: "**** To begin with, I would agree with Reserve's statement that they made earlier that the physical filling is not a problem. As a matter of fact, this deep water is essentially barren of producing food organisms and that sort of thing so that I don't really feel that if one looks at the possible total amount that might be put in that this is of importance. I would dispense with that consideration."

Mr. Stein: "I would like to flag that for the Conferees because I think that this is a ... as far as I can see a very important consideration for the Conferees. If you accept this, that the physical filling, this inert material is something that doesn't want to cause a problem in the trough--is of very little importance to the ecology of the lake, would you say?"

Dr. Mount: "That's what I'm saying. **** It seems to me that we can see now some of the considerations that are going to have to be looked at in regard to the alternatives as they relate to the effect on the environment and the one thing did deter me yesterday was the apparent feeling that just putting these things on the land was enough. It isn't possible to evaluate right now an on-land disposal system because we don't have any of the details of it. The principles are there, I think, and some of these have been mentioned and some of them have not been mentioned. I think the dust problem has been mentioned today; I guess is really a part of a larger problem. The whole esthetic problem, the appearance of this thing, is certainly one that does have to be evaluated and if a land disposal system is used, somehow we are going to have to crank this into the evaluation of it. Secondly, if it is a recreational area, this is a consideration and certainly to me a most important one. **** If we are going to make a comparison, there is no assurance that just pumping it (tailings) on the land is going to keep the water out of the lake. Now there is going to be seepage through the ground if it is on an area that is above or if it is on fill of some kind this water is going to go somewhere. It is either going to go into the lake or down some other river. And I do not subscribe to the position yesterday that we should take it out of Lake Superior and put it down some other river. I think this is burying your head in the sand. So I think we have to be concerned about this water wherever it goes. And, it is, also, I have heard comments about dumping the stuff in a bog somewhere and this is going to displace bog water which is clearly not desirable water either to put into the lake--so those are some of the considerations of on-land disposal. **** "

Exhibit A-5

On January 15, 1971 the Conferees convened in Executive Session and concluded that the Conference would establish a Technical Committee. The Chairman and representatives of Minnesota, Michigan and Wisconsin concurred in the following:

> "Chairman Murray Stein, Assistant Commissioner for Enforcement, Environmental Protection Agency, Water Quality Office, Washington, D. C.:
>
> " * * * The Committee will consider land disposal as well as the under water disposal plan presented here and come up with its evaluation as well as its recommendations * * * The Committee can just look at the feasibility of this kind of thing and hopefully get in touch with Reserve or any of the other parties and ask them to consult with them and see what recommendations they can come up with.
>
> Now I think we are faced with several propositions. We are faced with the proposition of--and let's start the other way by saying we are going to entertain the Reserve's proposal for under water disposal as is. We are going to entertain that and recommend it with modifications. We are going to reject it and tell them to go to a land disposal system, or we are going to reject it completely, that they have not come up with the remedial program and take appropriate action--legal action--and let the Court decide what the solution should be. * * * If we could set up a committee the committee can be established almost immediately, and we can ask the company to volunteer, and the committee could have their specifications of what they would ask the company to provide to them. In other words, I would like to give this to the committee when they have had a little thought and discussion with both and not set these specifics at a table like this, because I think we know what we are driving at, but I think this has to be the committee and the company deciding what they want and what was within the capability of the committee to give, and this will require a technical kind of discussion which we can leave to the committee. * * * Of course, any of the other conservation groups or anyone else you want to call into here, I suggest you get--I would strongly urge that everyone get all their theories out on the table at least at this go-around so that every time I come out here I don't grab another brass ring. * * * I would think that this is a Technical Committee, and we are not looking for votes or anything here. If there are different views we are going to take all of the views.* * * We just want to get all of the facts out. * * * I think we are very close to a solution and, as far as I am concerned, we are very close to a decision one way or the other.* * "

March 5, 1971 - Conversation with E. Fride

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FRIDE: I attended a meeting of the Technical Committe of the Lake Superior Enforcement Conference today, Friday, March 5. The meeting was scheduled to commence at 11:00 a.m. Because the Minnesota delegation was not present, the meeting did not commence until 11:50 a.m. Present were Dale Bryson, Dr. Donald Mount, Ginny Snarski, Grant Merritt, Johannes and Richie from the Minnesota delegation, Lloyd Lueschow from Wisconsin, and Mr. Kampenan from Michigan.

Merritt said that he had a draft of a report from Minnesota, but he did not read it nor did he distribute it. He said that he had personally looked at the ten alternatives which the Committee had listed in their rating sheet while he was the Task Force chairman for MECCA in a meeting at his home and he understands that MECCA had made a report to the Technical Committee. He asked, what has been done with the rating sheet? Mount replied: No tabulation was made of the rating sheet because of two problems--one, a linear tabulation wouldn't be accurate, secondly, Minnesota and Wisconsin said they could not use it in any event because they wanted an on-land system. Mount said that MECCA in their presentation to the Technical Committee had recommended that of the ten alternatives, number eight would be the only one that would be acceptable which was total tailings on land, no discharge to a surface water course.

Merritt said it was the policy of the state that it would require total on-land tailings deposition. He said he had looked at the possibility of a dike in the water in a tailings pond adjacent to the plant in Lake Superior, but that this was not acceptable. It would look bad and he (Merritt) said he had also considered the possibility of having the concentrator moved back to Babbitt, but that he understood that this would mean that the men who are employed at the plant would also move with the plant and this would lose the tax base in Lake County and that would not be good.

Bryson said the Department of Natural Resources said they could not accept eight, but that they would accept ten; ten being the relocation of the beneficiation plant near the existing mine site. Merritt said, that's all changed; that's resolved. I met with Herbst on February 18th. Herbst now will change the Department of Natural Resources' position. He'll send you a letter and I will telephone him and tell him to send you a letter. The state policy is that it's only land disposal; that the state of Minnesota is not going to dictate at this time what type of system because that's open to decision. We don't care if it's a tailings basin. We don't care if they move the plant, just so there's absolutely no discharge to the lake.

Exhibit A-8

Mount said, do you mean that literally no discharge to the lake? And Merritt said, exactly. And Mount said, it's incumbent on Minnesota to describe what you mean by an on-land system. That's simply a concept. What kind of a discharge would you be permitting? Merritt said, no discharge to the lake whatever, but we won't dictate the method that they come up with.

Merritt said, I have studied the laws and I'm not sure that the Conference can really tell the company what to do. And I'm not sure that this committee can determine what method can be utilized. Merritt further said, we don't know what plan the company will feel is most acceptable, and we don't know what's acceptable to the people in Minnesota, so we're not going to try to dictate the method. He said, we've asked the Corps of Engineers to revoke the permit. He (Merritt) said the company has to come up with the best plan and then we'll review it on both the state and federal level.

Bryson said, well NEMDA knows what regulations they have to meet in connection with their plan and historically, dischargers have to understand what kinds of criteria they have to meet. Would you permit them to put tailings in Lax Lake? Bryson referred to the fact that Michigan had, from what he understood, systems where iron ore companies would discharge into tailings basins but there would be overflows into rivers and, hence, to lakes and that Michigan authorized that. Minnesota will not, said Merritt. Bryson said, well Minnesota lost in court. How can you say that this is exactly what you're going to do now? Merritt said, there's lots of other actions that we're going to take and we're not too much concerned about that court decision. Mount said, do you mean to say that even if the discharge from Reserve meets all the effluent standards in Minnesota's regulations, that you still would prohibit any discharge to the lake meeting effluent requirements? And Merritt said, absolutely not one drop is going to that lake. He (Merritt) went on to repeat that we won't dictate the exact plan and you can't do it either (referring to the Technical Committee and to the Conference). Bryson and Mount both said that, well the Minnesota people who have been here from the PCA have previously reported to the Technical Committee that if some plan could be devised that would meet any effluent requirements of a discharge that this would be satisfactory. Merritt said, no, that's not going to be the case now; I'm changing that and there's not going to be any discharge at all to the lake. He (Merritt) said as far as Lax Lake is concerned that Stoddard's plan coming up soon will be reflecting that you don't have to use Lax Lake. And Merritt referred to Lax Lake as a red herring painted by Reserve.

Mount said, I'm familiar with what Stoddard is going to come up with ...he's told me. And he (Mount) said Stoddard's plan also has some discharge to the lake. Merritt said, if that's true, then it's not acceptable. Mount said, do you mean for all time. He (Mount) said there's a natural overflow in the spring. You may be looking at 50 to 100 years from now. What kind of requirements are you going to impose for that (Mount still speaking)? Merritt said, I don't care what they do or how they do it, but the tailings basin if that's what the company decides to go must be maintained by the company and must provide that for all time there will never be any overflow to any rivers or to the lake. He (Merritt) said they can recirculate it...other companies do and there's no reason why Reserve can't do the same thing. Merritt then interjected that he had told me (Fride) ...oh, he'd asked me a question and I asked Bryson whether he wanted me to answer it. This question related to the fact that there once was a pilot plant at Babbitt which did overflow into lakes and rivers and Merritt said that that was news to him; that he didn't know anything about a pilot plant and he asked me whether it was true. And I asked Bryson if he wanted me to respond to Merritt's questions or not; that I didn't intend to indicate any disrespect for Mr. Merritt, but that if they wanted me to respond, I would be glad to, but I wanted to know what the wishes were of the Committee. And Bryson said, no he didn't want me to speak; that as far as they were concerned I was simply a post in the corner and that they felt that the Committee's work would be better aided if there weren't any three-cornered kinds of decisions. Merritt then interjected, has the press been notified of this meeting; where's the press? And Bryson said, well the press have been notified that we are meeting from time to time. They know that there was a meeting scheduled for Friday, but they're not here and I haven't called them specifically about this meeting today.

Mount said to Merritt, would you accept any drainage to the St. Louis River or to the Mississippi River. Merritt said, no, we're going to use the St. Louis River for coho and we're not going to permit any discharge or any tailings of any kind to go into the river. Mount said, how about the Missouri or the Red River drainage? The Babbitt plant used to go there. Merritt said he didn't know anything about that, but they weren't going to do it any more if they ever had. He (Merritt) asked Johannes if that was correct. Johannes said that when there was a pilot plant, the tailings went to Birch Lake and then went up the other way. Merritt said, Erie at Hoyt Lakes has completely closed circulation, and that this is what Reserve was going to have to do. Mount said, when you start talking about zero discharges, you're getting into some very difficult kinds of areas. He (Mount) said that, for example, the Food and Drug Administration were talking about zero tolerances some time ago and each time they get a more sophisticated sampling technique, they find their zero tolerances changing. Merritt said he didn't much care about that; that other systems were closed and Reserve's was going to have to be closed and there was going to be absolute zero discharge.

Johannes then said to Merritt, are you ruling out any kind of a discharge even if it meets the effluent standards? Merritt said, yes. Mount said, well, number eight wouldn't meet that standard. And Merritt said, well then if it wouldn't, then we can't use it. Any water containing any fines of any kinds of tailings is not going to be permitted to go into Lake Superior or into any rivers that lead into Lake Superior (Merritt speaking). He (Merritt) said, what's the purpose of this Committee? Is the purpose to choose alternatives? What's the charge of the Conference? (Merritt still speaking.) They had some discussion about that and they finally got out the charge that Murray Stein had given to the Conference and read that and then Mount again said, you know the evaporation rate is substantially lower than the rainfall rate. How are you ever going to prevent any kind of discharge or overflow to Lake Superior (Mount speaking)? And Merritt said, he didn't care how they did it... they were just going to do it. And Mount said, well MECCA pressed for number eight... that wouldn't meet your policy. And Merritt said, well, if it wouldn't then they can't do it.

Merritt said, have you analyzed Reserve's plan? As the plan is presented, is it acceptable? Bryson then said, that he personally had a draft of the way that he thought the Technical Committee should go; that it was his (Bryson's) personal draft and that it was subject to change. Then they got out and passed around to those people a five-page draft with two attachments on it. Subsequently, I (Fride) got a copy of it so I won't belabor it too much. But it does say as far as conclusions, this: Quote... "The Plan to Modify Tailings Discharge System as presented by Reserve Mining Company at the January 14-15 Lake Superior Enforcement Conference was reviewed in detail by the Technical Committee. The Committee concludes that this method of disposal is unacceptable as it does not comply with appropriate pollution abatement regulations. The main concerns relative to this method are: (a) the proposed method would probably cause more green water than currently exists; (b) the proposed method would not materially reduce dissolved solids discharged to the lake; (c) the proposed method would not materially reduce suspended solids discharge to the lake; (d) the proposed method would employ a flocculant which would be discharged to the lake and which would have unknown ecological impact." Then it goes on to say, "When considering the abatement of an existing source of pollution, the historical policy of the state and federal regulatory agencies is to rely totally upon the discharger to develop the appropriate acceptable method of waste treatment. If the method proposed by the discharger is found to be unacceptable, appropriate guidance is furnished the discharger for his use in making the proper corrections prior to resubmission. The Lake Superior Technical Committee feels that considerations relating to the Reserve Mining Company method of disposal should be guided by this precedent." At this point Merritt interjected and he said to Johannes, is that correct... that that's the historical policy? And Johannes said, yes. And Mount said to Wisconsin and Michigan, do you agree that that's the historical policy? And they both indicated yes.

The conclusions of the Bryson draft said: Quote... "(1) The Plan to Modify Tailings Discharge System as presented by Reserve is an unacceptable method of waste disposal; (2) No other firm methods of tailings disposal were presented to the Committee for evaluation; (3) The Committee was unable to develop alternative disposal methods in sufficient detail to technically evaluate them; (4) It is the responsibility of a waste discharger to develop an acceptable method of waste treatment for presentation to the appropriate regulatory agencies to eliminate the pollution problems from that discharge; (5) It is the responsibility of the appropriate regulatory agencies to provide guidance to the discharger in the case Reserve Mining Company, as to the acceptability of a method of disposal and if unacceptable, to provide guidance as to what modifications of the proposed process are necessary to become acceptable."

The recommendations in the Bryson draft were that the Committee recommends... quote... (1) The Conferees instruct Reserve to develop a means of taconite tailings disposal that will eliminate the causes of concern delineated; (2) The Conferees provide Reserve with the appropriate criteria against which a design of an alternative method of disposal can be designed; (3) Reserve Mining Company should present a preliminary proposal in as great detail as possible within 90 days from the date the Conferees instruct the company. The final detailed plans and specifications should be submitted six months thereafter as stated in Conference Recommendation number nine, final construction and operation of the sytem should be completed by January, 1974."

They then embarked in a discussion of those recommendations and Merritt said that all Minnesota needs is number one--that was that they instruct Reserve to develop a means of taconite tailings disposal. Bryson said, that's quite a problem... you're expecting a discharger to do something blindly. You have to be fair and tell the company what it has to do (Bryson). Merritt said, it doesn't make any difference to have deadlines anyway... the company's missed two deadlines; they're not going to make any deadlines, there's no use giving them any deadlines. There are many other courses that the Conferees can take (Merritt). Mount said, maybe we should take out number three and just leave number one and number two (number two being that the Conferees would provide criteria). Mount asked Merritt again, would you accept an overflow that meets your effluent standards? Merritt said, absolutely not.

Johannes said, well, we're going to be taxed pretty much if we're going to try to develop criteria and if we're going to consider environmental effects on land... such as on wildlife and ground waters and so forth. Johannes said, why don't we just leave that sort of loose and Minnesota would have to issue a permit anyway, so it's a Minnesota problem. The overall criteria for land, let's just limit ourselves to water and tell Reserve to come up with a plan that meets the policy of the state insofar as water is concerned (Johannes).

Mount said, do you agree that they cannot use Lax Lake? Merritt said he doesn't care if they use Lax Lake or not... he doesn't think they have to use Lax Lake... but they could pollute Lax Lake if they have to because that's the lesser of many evils. He (Merritt) emphasized that he did not want Reserve to shut down. Mount said, will Minnesota present specific criteria to the Conference so that the Conferees can evaluate the criteria? Merritt said, no. Merritt said, let's call Stein... let's reconvene the Conference.

There was some discussion about who was going to call Stein. Merritt said he would be calling the principals insofar as Wisconsin and Michigan were concerned. He said (Merritt) maybe all we need is just number two, or just number one. He (Merritt) said that as far as I'm concerned this Committee has discharged its responsibility ... it says it can't come up with any alternative. And they can say that because of the lack of staff and lack of time. Wisconsin said, well if Minnesota wanted to establish criteria, that's up to Minnesota. Wisconsin is not saying zero discharge. All Wisconsin is saying is on-land discharge.

Johannes--we can't consider land without thinking about the effects, so let's just restrict ourselves to water considerations.

Mount said Reserve should be provided with criteria. Merritt said, no we don't have to provide them with criteria... the Conferees have to decide this; there's no point in spelling out the criteria. Mount again said, well even Stoddard's plan isn't acceptable by your definitions. Merritt said, well if it isn't, then it isn't acceptable as far as the state of Minnesota is concerned.

Merritt then said he'd have to leave (it was then 12:50--Merritt had been there just about exactly an hour). Bryson said, this Technical Committee must have information from Herbst by Monday. Merritt said don't worry, you'll get it.

In the Bryson draft it is provided.. quote... "The Minnesota Department of Natural Resources said they would not allow such a location (this is Lax Lake) to be used for a tailings lagoon due to the safety hazard presented and the impairment to land uses in that region. Instead, they suggested that a portion of the plant be relocated closer to the mine. Reserve Mining Company explained that that latter plan would not be feasible."

The information that they came up with just before Merritt left was that they had advised Stein that the Committee would be ready for a report anytime after March 10th. Merritt said, I presume that Stein will want to give three weeks' notice of the reconvening, so that would be toward the end of March. Bryson said they didn't think they had to give three weeks' notice but maybe Stein would want to do so. It was left that Merritt was going to leave.

I then asked Bryson for a copy of the draft which he had and he polled the Committee and the poll was that we would be entitled to it so they gave me a copy of this draft. I said, write on it that it is a draft if you like, so they wrote on it, draft subject to revision.

Subsequent to that Merritt leaving then, they were going to have lunch and they said they would get together this afternoon and hammer out without Merritt being there, but with Johannes and Richie being there, hammer out some Committee report that would be acceptable as they understood it.

# REPORT TO
# LAKE SUPERIOR TACONITE TECHNICAL COMMITTEE
# FROM
# WISCONSIN

2/11/71

1. The committee was directed to consider land disposal of taconite tailings as well as their disposal by means of the underwater disposal plan presented at the January 14, 1971 enforcement conference and come up with an evaluation and recommendations.

2. The committee selected ten suggested methods for disposal of taconite tailings and developed sixteen criteria for evaluation of environmental impact of each of the methods.

3. Section 29.29(3), Wisconsin Statutes, prohibits deposition of stone or sand in waters within the jurisdiction of the State. In view of this statute, Wisconsin cannot authorize deposition of tailings in Lake Superior from any source in or outside of the State of Wisconsin.

4. In view of the legislation referred to in item 3, the only acceptable methods of taconite tailings disposal are 5, 8, 9 and 10. Of these, method 8 appears most suitable as it provides for disposal of taconite tailings on land as well as reuse of process water, thus reducing appropriation of water to a minimum. Potential for surface water pollution would also be at a minimum. Concern was expressed about the safety of the dam which would ultimately reach a height of 100 feet. In the interest of safety, the dam could over a period of time be built up in ten 10-foot set back terraces designed with a gradient towards the next succeeding terrace above it. These slanted terraces would act as catchment areas for rains and reduce runoff from the face of the dam to a minimum. On completion, the first terrace and its face could be fertilized and planted with suitable vegetation to prevent erosion.

Exhibit A-9

5. Methods 1, 2, 3, 4, 6 and 7 must be rejected as each of these would result in discharge of tailings to Lake Superior.

6. See attached copy of Wisconsin Statutes and letter of November 16, 1967.

Theodore F. Wisniewski
February 11, 1971

## MEMORANDUM

Re: Reserve Mining Company - Tailings Disposal

Freeman Holmer, Administrator of the Wisconsin Department of Natural Resources, wrote the Corps of Engineers November 16, 1967 in part as follows:

> "With reference to 'Notice of Revalidation of permit for dock, breakwaters, and deposition of tailings in Lake Superior and Beaver Bay, Lake Superior, Minnesota' the Wisconsin Department of Natural Resources, Division of Resource Development, calls attention to the enclosed copy of Wisconsin fish and game laws and specifically to the underlined portion of Section 29.29 (3). Wisconsin Statutes, which prohibits depositing of stone or sand in the waters within the jurisdiction of the State.
>
> In view of this statute we wish to strongly object to deposition of tailings from any source in or outside of the State of Wisconsin."

Thomas G. Frangos, Director Bureau of Water Resources Wisconsin Department of Natural Resources, by letter dated January 30, 1968 informed the Corps of Engineers that:

> "It is our opinion that the use of public waters for deposition of tailings is a questionable practice as Wisconsin statutes specifically prohibit activities of this kind. I am enclosing copy of Section 30.12, statutes, for your information."

While Wisconsin has no legal jurisdiction over deposits made in Minnesota waters, the argument apparently advanced is that since Wisconsin would prohibit such a discharge in Wisconsin waters the same restriction should logically be applicable to deposits in Minnesota waters which in the long run allegedly affect that portion of the Lake bordering Wisconsin.

Exhibit A-10

In my judgment it is questionable whether the Wisconsin statute cited would preclude the deposit of taconite tailings in Wisconsin waters if, as in Minnesota, the appropriate permits were applied for and received. On that concept the principles authorizing deposit would be the same in both states, i. e., securing appropriate permits under the state law authorizes such deposit insofar as the state is concerned.

The portion of the Wisconsin fish and game law cited is 29.29 (3). It is captioned Deleterious Substances and states:

> "No person shall cast, deposit, * * * into any waters within the jurisdiction of the state * * * any fish offal; or throw or deposit, or permit to be thrown or deposited, into any waters within the jurisdiction of the state any lime, tanbark, ship ballast, stone, sand, except where permitted by s.30.12(2)(b), slabs, decayed wood, sawdust, sawmill refuse, planning mill shavings, or any acids or chemicals or waste or refuse arising from the manufacture of any article of commerce, or any other substance deleterious to game or fish life other than authorized drainage and sewage from municipalities and industrial or other wastes discharged from mines or commercial or industrial or ore processing plants or operations, through treatment and disposal facilities installed and operated in accordance with plans submitted to and approved by the committee on water pollution under ch. 144, or in compliance with orders of that committee * * *."

By a 1967 amendment the Wisconsin Legislature changed the approving authority from the committee on water pollution to the Department of Resource Development. By a 1965 amendment the Public Service Commission referred to in Sec. 30.12 was changed to the Department of Resource Development.

In my opinion the statute in question does not, as suggested by Messrs. Holmer and Frangos absolutely prohibit the deposition of stone or sand in navigable waters. Such deposition is prohibited except other than as permitted by Sec. 30.12 or other than wastes discharged from ore processing plants or operations under proper permits issued by the Wisconsin committee on water pollution.

The Wisconsin writers may have become confused because of the clause in Wisconsin statute:

"except where permitted by s.30.12 (2) (b)".

At first blush this might appear to be the only exception to the prohibition of depositing stone or sand. Section 30.12 (2) (b) provides:

> "A riparian owner may place a layer of sand or other similar material on the bed of a lake adjacent to his property for the purpose of improving recreational use upon obtaining approval as stated in this paragraph. An application for approval to put sand or other similar material on the bed of a lake for such purpose shall be made to the public service commission. * * *"

Thus Sec. 30.12 (2) (b) only relates to sand deposited by a riparian owner "for the purpose of improving recreational use." A logical construction of the statute would be that this is a parenthetical clause making clear that for such purposes a riparian owner need not obtain the permit of the committee on water pollution. The subsequent reference to wastes from mines and ore processing plants makes clear that sand can be deposited under proper permits from the Department of Resource Development. when it is waste from an industrial or ore processing plant.

Chapter 144 of the Wisconsin statutes relates to water pollution and includes in Sec. 144.51 (4) a definition of "pollution" to mean:

> "includes contaminating or rendering unclean or impure the waters of the state, or making the same injurious to public health, harmful for commercial or recreational use, or deleterious to fish, bird, animal, or plant life."

Under the Wisconsin law the Department is charged with responsibility for the administration and enforcement of all laws relating to the pollution of the surface waters of the state and has authority:

> "To issue general orders, and adopt rules and regulations applicable throughout the state for the installation, use and operation of practicable and available systems, methods and means for controlling the pollution of the surface waters of the state through industrial wastes, refuse and other wastes" (144.53 (3) (4))

and:

> "To issue special orders directing particular owners to secure such operating results toward the control of pollution of the surface waters as the committee may prescribe, within a specified time. Pending efforts to comply with any order, the committee may permit continuance of operations on such conditions as it may prescribe. * * * The committee shall have the same power and authority as has been conferred upon the state board of health by Sec. 144.04 with reference to ordering and approving plans. * * *" (Sec. 144.51 (5))

> "The department, upon request, and without charge for service or expense, shall consult with and advise owners having installed or about to install systems or plants, as to the most appropriate water supply and the best method of providing for its purity, or as to the best method of disposing of sewage or refuse, with reference to the existing and future needs of all communities or persons which may be affected thereby.* * *" (Sec.144.025 (2) (d) 1.)

All three states, Minnesota, Michigan and Wisconsin, have statutory provisions authorizing the issuance of permits for the use of water and the handling of industrial waste. All three states have also recognized the importance to the state of the development of taconite and low grade ore development. In 1959 the Wisconsin Legislature enacted Sec. 107.053 (3) providing:

> "The legislature hereby declares that the development of the iron ore resources of the state and the diversion or consumptive use of the waters of the state in connection therewith is in the public interest, for the public welfare and fulfills a public purpose. As the mining and processing of such iron ore will require considerable quantities of water, it is necessary that persons engaged in or about to engage in the mining and processing of such ores be assured of an adequate and continuing supply of water for such operations before the large capital expenditures required for mills, plants and other improvements are made. In passing upon any application for a permit for the diversion or consumptive use of water under this section, the * * * department shall weigh the public rights in the stream which may be adversely affected against the public benefits which will result from the iron ore mining and processing operation in the form of increased opportunities for improvement and industrial development and increased income to local agencies of government and to the state treasury. If the public benefits which will result from the proposed operation outweigh the public rights in the stream which will be impaired or eliminated, the permit shall issue.
>
> (4) If a permit is granted pursuant to a final decision of the * * * department or as affirmed or modified pursuant to judicial review under ch. 227, the commission shall specify the duration of such permit which shall be for such time as is necessary to permit the mining to exhaustion and the processing of all iron ore which is referred to in the application, provided that the duration of such permit may be extended by the * * * department for good cause shown on application of the permittee."

A similar statute was enacted by the Michigan Legislature in 1960 providing:

> "323.251 Low grade iron ore; mining and beneficiation, water permits.
>
> Sec. 1. Substantial deposits of low grade iron ore are located in the Upper Peninsula of this state. The development and continuation of the industry of mining and beneficiating such low grade ores will provide employment and generally improve economic conditions in that area and will be in the public interest and for the public welfare of this state. As the mining and beneficiating of the low grade iron ore requires considerable quantities of water, it is necessary that persons engaged in or about to engage in the mining and beneficiation of such ores be assured of an adequate and continuing supply of water for such operations to protect the large capital expenditures required for mills, plants and other improvements. It is, therefore, declared that the use of water as herein defined in connection with the mining and beneficiation of such low grade iron ore is in the public interest, for the public welfare and for a public purpose; and permits for the use of water or waters, as herein defined, may be issued by the commission in connection with the mining and beneficiation of such low grade iron ores as herein provided. P.A. 1959, No. 143, § 1, Eff. March 19, 1960."

The conclusion expressed to the effect that under Wisconsin law a permit could be granted to deposit tailings in Wisconsin waters is the same as that reached by the attorney general of Wisconsin. In a 1956 opinion, copy attached as Exhibit A, he said:

> "Sec. 29.29, Stats., prohibits the discharge of noxious substances harmful to game or fish life in any waters in this state, and refers to poison bait and toxic insecticides among other things. This is a part of the fish and game law administered by the conservation commission and again is not directed at water pollution control as such. On the contrary, the purpose of the chapter is the preservation of fish and game life. Nor was sec. 29.29 intended to supersede the authority of the water pollution committee. 38 O.A.G.127.
>
> In this connection it should be noted that in 38 O.A.G. 404 the test of the applicability of sec.29.29 (3),

> Stats., was specifically stated to be whether the substances deposited 'were in fact deleterious to fish life.' The conclusion is clear that water pollution as such cannot be touched under this section unless the foregoing test is met. This is a penal statute designed to protect fish life and cannot properly be designated as a water pollution control regulation. Moreover, the overriding power of the water pollution committee is specifically preserved in sec. 29.29 (3) so that even where there is what would otherwise be a violation of that act, it may nevertheless be done with impunity if the discharge of the noxious substance comes from a plant that has been installed pursuant to plans approved by the committee on water pollution."

Similarly in 1949 the Wisconsin attorney general commented on the lack of application of Sec. 29.29 (3) and the fact that it would have little relevance to alleged industrial pollution. Attached as Exhibit B is that opinion.

For ease of reference Sec. 29.29 (3) is attached as Exhibit C with underscore supplied.

Sec. 30.12 is attached as Exhibit D with underscore supplied.

E.T.F.

Attention is called to the fact that under sec. 144.52 (1) it is provided that one of the five members of the committee on water pollution shall be a conservation commissioner or an employe designated by the conservation commission. The present chairman of the committee on water pollution is an employe of the conservation commission. This gives the conservation commission a voice in determining the policies of the committee on water pollution and in deciding whether a particular situation can be more appropriately handled by the committee on water pollution acting under sec. 144.53 or whether it is a matter of the type which might better be referred to the local district attorney for prosecution under sec. 29.29 (3). It is immaterial who makes the complaint to the district attorney although sec. 29.05 (1) clearly authorizes the conservation commission and its deputies to make the arrest either with or without warrant. Any citizen or agency, however, would be justified in calling the violation to the attention of the district attorney and in asking that prosecution be instituted. There are many statutes which make it the duty of an officer, board, or agency to enforce the provisions of a particular chapter or section of the statutes. In the case of a criminal statute, however, the actual enforcement must rest with the district attorney and the courts based upon the investigation and complaint of the officer or agency directed to enforce the statute or upon the complaint of a private citizen.

You are therefore advised that sec. 29.29 (3) has not been superseded by and is not in conflict with sec. 144.53. Rather, each complements the other, the use of the one or the other being dictated by a consideration of what appears to be the more effective solution of the particular situation.

WHR

stance, in seeking an injunction. However, he should be punished for the wrong he has done, if for no other reason, for the purpose of deterring others from committing similar violations. Doubtless other illustrations for using sec. 29.29 (3) could be suggested, but sufficient has been said to demonstrate that there are some situations which can be handled more appropriately under sec. 29.29 (3) and there are others where administrative orders under ch. 144 are indicated.

Section 144.53 (5) authorizes the committee on water pollution to issue special orders directing particular owners to secure such operating results toward the control of pollution of the surface waters as the committee may prescribe within a specified time. The word "owner" at least as used in the earlier part of ch. 144, means the state, county, township, city, village, corporation, firm, company, institution or individual owning or operating any water supply, sewerage or water system or sewage or refuse disposal plant, and the word "refuse" is defined to include all matters produced from industrial or community life, subject to decomposition and not defined as sewage. Sec. 144.01. This terminology and the procedure outlined in sec. 144.53 (5) would impliedly cover the situation which exists where there is a more or less continuing disposal problem as distinguished from that of an isolated but not continuing act of pollution such as we have mentioned above as falling within the provisions of sec. 29.29 (3), even though sec. 29.29 (3) is technically broad enough to cover continuing pollution as well as an isolated instance.

There are many statutory provisions whereby it is possible to proceed either criminally or civilly upon the same set of facts, e.g., a person practicing a profession without a license may be proceeded against by injunction or *quo warranto* even though the statute provides a criminal penalty for the illegal practice. (See 1945 Wisconsin Law Review 163-180 for discussion.) Also it has been held that a public nuisance may be abated by equitable action whether or not the act constituting the nuisance is declared a nuisance by statute and even though such act also constitutes a crime. *State ex rel. Cowie v. La Crosse Theaters Co.*, 232 Wis. 153.

state board of health and the committee on water pollution as ch. 144 provides.

The practice under ch. 144 has been for the state board of health acting separately or jointly with the committee on water pollution to issue orders requiring submission of plans for installation of treatment plants and for construction pursuant to such plans where the pollution problem is one primarily related to public health. If on the other hand the problem does not involve public health but is confined to industrial pollution, impairing the usefulness of the waters in question for recreational and fishing purposes, the committee on water pollution acts separately. If both industrial pollution and public health are involved, the practice has been to issue joint orders under sec. 144.565.

Such orders are subject to review before the administrative agency and to judicial review under ch. 227. The above agencies are equipped with the technical staff for making necessary investigations and for suggesting the proper type of treatment facilities to meet specific problems in the handling of domestic sewage and industrial wastes. Upwards of 50 orders of these agencies, acting either separately or jointly, are outstanding at the present time and in the great majority of instances the municipalities or industries involved cooperate with the agencies by complying with the orders issued without seeking administrative or judicial review and without forcing the state to commence actions for securing compliance with the orders.

Despite this activity there are no doubt situations which can be handled more adequately by criminal prosecution under sec. 29.29 (3) such as the isolated case of an individual who conceives the mistaken notion that the simplest way to dispose of some noxious matter in his possession is to haul it to the nearest watercourse. In such a case there would be little point in having an extensive stream survey made by the technical staff of the state board of health or committee on water pollution or to require the submission of plans for a disposal system, especially where the violator is not engaged in a business where additional wastes will be produced. He might never have occasion to violate the law again and there would be no point, for instance, ch. 314, Laws 1880, was an act to prevent the manufacturers of lumber, lath or shingles from throwing slabs, edging, trimmings of lumber or shingles, or sawdust into the Wisconsin river or any of its tributaries, excepting the Pine river in Richland county, and the Kickapoo river. This became sec. 4570*c* of the Ann. Stats. of 1889 and remained in the statutes until sec. 29.29 (3) was created by ch. 668, Laws 1917. Chapter 134, Laws 1881, prohibited the carrying or throwing into or depositing of any sawdust, shavings, edgings or other mill wastes into any lake or bay of this state connected with the great chain of lakes, navigable for vessels or steamers. This became sec. 4570*a* of the Ann. Stats. of 1889 and likewise continued until sec. 29.29 (3) was created.

Section 29.29 (3) is a much broader statute than either of the foregoing provisions and reads:

> "No person shall cast, deposit, or throw overboard from any boat, vessel or other craft into any waters within the jurisdiction of the state, or deposit or leave upon the ice thereof until it melts, any fish offal; or throw or deposit, or permit to be thrown or deposited, into any waters within the jurisdiction of the state any lime, tanbark, ship ballast, stone, sand, slabs, decayed wood, sawdust, sawmill refuse, planing mill shavings, or any acids or chemicals or waste or refuse arising from the manufacture of any article of commerce, or any other substance deleterious to fish life other than authorized drainage and sewage from municipalities."

Sections 144.51 to 144.57 inclusive were created by ch. 264, Laws 1927, and it might also be mentioned here that the 1919 legislature had in the meantime greatly expanded the powers of the state board of health with reference to water pollution by ch. 447 which created substantially what are now secs. 144.01 to 144.12 inclusive.

Apparently sec. 29.29 (3) which is a penal statute has had very limited, if any, application in actual practice. We will not here attempt to analyze the reasons for this, but it must be assumed that sec. 29.29 (3) did not seem to be the answer to the water pollution problem or the legislature would not have also placed it in the field of administrative law by conferring such broad powers upon the

*Conservation Commission—Fish and Game—Water Pollution*—Section 29.29 (3), Stats., which makes it a criminal offense to deposit deleterious substances in public waters and sec 29.05 (1), Stats., relating to its enforcement are not superseded by and are not inconsistent with sec. 144.53 relating to the authority of the committee on water pollution.

March 28, 1949.

ERNEST SWIFT, *Director,*
*Conservation Department.*

You call our attention to sec. 29.29 (3), Stats., which prohibits the depositing of deleterious substances in the waters of the state and sec. 29.05 (1), Stats., which makes it the duty of the state conservation commission and its deputies to arrest any person detected in the actual violation, "or whom such official has reasonable cause to believe guilty of the violation of any of the provisions of this chapter, and to take such person before any court in the county where the offense was committed and make proper complaint." Our attention is also directed to sec. 144.53 (1), Stats., which provides that it shall be the duty of the committee on water pollution to exercise general supervision over the administration and enforcement of all laws relating to the pollution of the surface waters of the state.

We are asked whether the provisions of sec. 144.53 supersede the provisions of secs. 29.29 (3) and 29.05 (1) insofar as the enforcement of sec. 29.29 (3) is concerned.

We do not consider that there is any conflict or inconsistency involved here. Conflicts between statutes by implication or otherwise must be avoided if reasonably possible, provided the statutes may be otherwise reasonably construed. *State v. Thomas,* 150 Wis. 190; *State v. Hackbarth,* 228 Wis. 108.

Statutes may overlap without being in conflict and not infrequently alternative procedures are set up for accomplishing the same end result. Section 29.29 (3) in its present form came into the statutes by ch. 668, Laws of 1917, although there were provisions prohibiting the throwing of mill wastes into waters at a much earlier date. For in-

Exhibit B

general to Hon. Oscar A. Rennebohm, governor of Wisconsin. In this letter the surgeon general of the United States public health service quoted the provisions of the federal Water Pollution Control Act and concluded:

> "This is to advise you that the Committee on Water Pollution satisfies those requirements of the Water Pollution Control Act and is hereby designated the State water pollution agency for Wisconsin for the purposes of the aforementioned Federal Act."

In order that federal authorities may be reassured on this point, we would suggest that the governor of Wisconsin be requested to again designate the water pollution committee as the agency authorized under sec. 14.205 (2), Stats., to administer any plans now under consideration for joint federal and state action under the federal Water Pollution Control Act and to receive and administer any federal funds which may be forthcoming under said Act.

WHR

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*State Board of Health—Hotels and Restaurants—Inspection Fees*—Under sec. 160.03 (5), Stats., state board of health may issue checks only to cities and counties for inspections and investigational services of local health departments. No checks may be issued directly to the local health department whether it be a city, county, or joint city-county health department.

November 9, 1956.

DR. CARL N. NEUPERT,
*State Board of Health.*

In connection with the administration of the hotel and restaurant law, ch. 160, Stats., you direct our attention to the provisions of sec. 160.03 (5), which reads:

"(5) In the administration and enforcement of this chapter, the board may designate and use full-time city or county health departments as its agents in making inspections and investigations; provided, that when such designation is made and such services are furnished, the board shall reim-

or department so designated by the governor is hereby authorized and directed to administer such fund for the purpose designated by the act of congress making an appropriation of such funds, or by the department of the United States government making such funds available to the state of Wisconsin.

"(4) Any board, commission or department of the state government designated to administer any such fund, shall, in the administration of such fund, comply with the requirements of the act of congress making such appropriation and with the rules and regulations which may be prescribed by the United States government or by the department of the federal government making such funds available."

Moreover, the legislature has further evidenced its intent that the water pollution committee shall be the agency to administer funds contributed from sources other than the legislature for water pollution control programs in sec. 144.53 (3) which makes it the duty of the committee and gives it power, jurisdiction and authority:

"To conduct scientific experiments, investigations and research to discover economical and practicable methods for the elimination, disposal or treatment of industrial wastes to control pollution of the surface waters of the state. *To this end the committee may co-operate with any public or private agency, when requested by such agency, in the conduct of such experiments, investigations and research and may receive on behalf of the state any moneys which any such agency may contribute as its share of the cost under such co-operative arrangements.* * * *"

While it would be possible to go into the subject in greater detail than has already been done, it would only prolong an already lengthy opinion to do so, and on the basis of the foregoing we conclude that the Wisconsin legislature has pretty clearly indicated that the water pollution committee is the only single state agency which the legislature intends to act for the state in matters relating to the control of water pollution, particularly where the activity involves co-operation with the federal government and other states.

Such has been the prior construction of our statutes by the state agencies involved, including the governor, and such has been the interpretation of the federal government as evidenced by a letter of June 17, 1949, from the surgeon agency charged with responsibility for enforcing state laws relating to the abatement of water pollution, the same reasoning would preclude naming of the agency in any other state set up for water pollution control as such agency, since it is impossible to conceive that any state in the United States has a body of statute law wherein one agency alone has complete control of every single statute relating directly or indirectly to water pollution control. No doubt many states have penal statutes relating to the discharge of noxious substances in public waters without incorporating such statutes in the powers delegated to some administrative agency such as a water pollution control board.

Otherwise, congress might just as well have said that the state board of health in every state shall be the agency to supervise administration of the plan. We do not believe that the statute should be so construed as to wind up with administration in every instance in the state board of health, and it would appear that the Wisconsin legislature has made it abundantly clear that so far as it is possible to have any one agency charged with the enforcement of the state's laws relating to water pollution, the committee on water pollution is intended to be that agency even though there are other agencies concerned with other responsibilities where water pollution problems are incidentally involved.

Lastly, it would appear that the legislature anticipated the very problem presented here when it enacted sec. 14.205, Stats., which provides:

"14.205 (1) Whenever the United States government shall make available funds for the education, the promotion of health, the relief of indigency, the promotion of agriculture or for any other purpose other than the administration of the tribal or any individual funds of Wisconsin Indians, the governor on behalf of the state is authorized to accept the funds so made available. In exercising the authority herein conferred, the governor may stipulate as a condition of the acceptance of the act of congress by this state such conditions as in his discretion may be necessary to safeguard the interests of the state of Wisconsin.

"(2) Whenever funds shall be made available to the state of Wisconsin through an act of congress and acceptance thereof as provided in subsection (1), the governor shall designate the state board, commission or department to administer any of such funds, and the board, commission even where there is what would otherwise be a violation of that act, it may nevertheless be done with impunity if the discharge of the noxious substance comes from a plant that has been installed pursuant to plans approved by the committee on water pollution.

It might also be noted at this point that the state board of health, the public service commission, and the state conservation commission, whose functions may incidentally involve situations in which water pollution plays a part despite the fact that the statutes relating to these agencies are not directed to water-pollution as such, are represented, nevertheless, on the water pollution committee and as a matter of fact have four of the five votes on that committee. The state chief engineer is the only member of the committee who is not a member of one of these three agencies. See sec. 144.52 (1), Stats. This further supports the conclusion that the committee on water pollution is *the* agency charged with administration of the laws of the state relating to water pollution abatement.

Moreover, attention is called to the fact that in those instances where the legislature has deemed it necessary to have a single agency speak for the state on water pollution programs, it has specifically named the water pollution committee as that agency, as sec. 144.53 (7) provides that it shall be the duty of the committee on water pollution and it shall have power, jurisdiction, and authority:

> "(7) To enter into agreements with the responsible authorities of other states, subject to approval by the governor, relative to methods, means and measures to be employed to control pollution of any interstate streams and other waters and to carry out such agreement by appropriate general and special orders. This power shall not be deemed to extend to the modification of any agreement with any other state concluded by direct legislative act, but, unless otherwise expressly provided, *this committee shall be the agency for the enforcement of any such legislative agreement.*"

While, as previously indicated, it is not our function to construe a federal statute, we believe that if the statute in question is construed so as to preclude the designation of the committee on water pollution in Wisconsin as the single on the ground surface. It is important to note, however, that where the situation is one which involves water pollution, the order always comes from the committee on water pollution. The state board of health may join in such an order but it does so only where there is a hazard to public health. In other words, its jurisdiction is always exercised in the interests of preservation and protection of public health from whatever source the hazards may be, and we believe it to be a fair statement of the law that secs. 144.01 to 144.12 are not laws aimed at the abatement of water pollution as such. Basically they are water supply and sewage disposal regulatory statutes and have always been so construed by the state board of health.

The public service commission under ch. 31, Stats., has some rather extensive powers over navigation, water power, mills and milldams, with authority to abate nuisances such as obstructions, but again it is impossible to read into any of the statutes relating to the public service commission any legislative intent to confer upon that agency any responsibility for enforcing state laws relating to the abatement of water pollution, whether under ch. 31, ch. 196, Stats., or otherwise.

Sec. 29.29, Stats., prohibits the discharge of noxious substances harmful to game or fish life in any waters in this state, and refers to poison bait and toxic insecticides among other things. This is a part of the fish and game law administered by the conservation commission and again is not directed at water pollution control as such. On the contrary, the purpose of the chapter is the preservation of fish and game life. Nor was sec. 29.29 intended to supersede the authority of the water pollution committee. 38 O.A.G. 127.

In this connection it should be noted that in 38 O.A.G. 404 the test of the applicability of sec. 29.29 (3), Stats., was specifically stated to be whether the substances deposited "were in fact deleterious to fish life." The conclusion is clear that water pollution as such cannot be touched under this section unless the foregoing test is met. This is a penal statute designed to protect fish life and cannot properly be designated as a water pollution control regulation. Moreover, the overriding power of the water pollution committee is specifically preserved in sec. 29.29 (3) so that

The question therefore is whether the water pollution committee can properly be described as a single state agency charged with responsibility for enforcing state laws relating to the abatement of water pollution.

In approaching this question it should be made clear that it is not the function of the state's attorney general to advise federal officials as to the proper construction of federal statutes. About all we can do in a case like this is to advise officials how we construe our own statutes. No doubt federal officers may find such construction helpful where the answer to a particular problem in administering the federal law depends upon the construction of the state law as it does here.

It therefore becomes necessary to survey in some detail the Wisconsin statutes relating to water pollution control.

The basic statute as to responsibility for water pollution conrol is sec. 144.53 which is very comprehensive in scope. In fact subsecs. (1) to (7) inclusive lay down a complete and all-embracing jurisdiction over water pollution as such.

It is true that sec. 144.54, Stats., contains a limitation to the effect that nothing in the statutes relating to the committee on water pollution shall be construed to limit or modify the powers and duties of the state board of health under secs. 144.01 to 144.12.

The powers and duties of the state board of health under secs. 144.01 to 144.12 are not directed to the control of water pollution as such.

Under sec. 144.02 the state board of health is given investigational powers to determine to what extent natural waters are contaminated by sewage or polluted by industrial wastes.

Under the regulatory powers of the board as set forth in sec. 144.03 no mention is made of water pollution as such, although the board has power to order the owner of a waterworks system or sewage system to correct a nuisance or menace to health and comfort.

It might be stated at this point that in its administration of secs. 144.01 to 144.12 the state board of health has never issued an order directed at water pollution as such. It issues orders where, for instance, a sewage plant is creating an odor nuisance or is discharging inadequately treated sewage

*Water Pollution—State Committee—Federal Aid*—Committee on water pollution acting under sec. 144.53, Stats., is the proper state agency for enforcing state laws relating to abatement of water pollution, and when so designated by the governor under sec. 14.205 (2), Stats., is the agency to administer federal funds made available for water pollution control under the Water Pollution Control Act, 33 U.S.C.A. §466.

November 9, 1956.

T. WISNIEWSKI, *Director,*
*Water Pollution Committee,*
*State Board of Health.*

You have directed our attention to an office memorandum dated October 22, 1956, from the office of the general counsel of the United States public health service to the regional director of Region V, relating to the identity of the state agency in Wisconsin for administering the state plan for prevention and control of water pollution in cooperation with the federal government under the provisions of the Water Pollution Control Act, 33 U.S.C.A. §466, as amended by Public Law 660, 84th congress.

The act provides:

> "The term 'State water pollution agency' means the State health authority, except that, in the case of any State in which there is a single State agency, other than the State health authority, charged with responsibility for enforcing State laws relating to the abatement of water pollution, it means such other State agency;"

Heretofore and under earlier federal legislation the water pollution committee of Wisconsin has been accepted and designated as the state agency under the above language.

Despite this prior administrative construction of the law both by the federal authorities and state officials including the governor, doubts are now cast upon the correctness of this determination because of the existence of Wisconsin statutes other than those relating to the committee on water pollution which appear to involve other agencies of the state in matters that are incidentally related to water pollution control.

Exhibit A

29.29 (3) Deleterious substances. No person shall cast, deposit, or throw overboard from any boat, vessel or other craft into any waters within the jurisdiction of the state, or deposit or leave upon the ice thereof until it melts, any fish offal; or throw or deposit, or permit to be thrown or deposited, into any waters within the jurisdiction of the state any lime, tanbark, ship ballast, stone, sand, except where permitted by s. 30.12 (2) (b), slabs, decayed wood, sawdust, sawmill refuse, planing mill shavings, or any acids or chemicals or waste or refuse arising from the manufacture of any article of commerce, or any other substance deleterious to game or fish life other than authorized drainage and sewage from municipalities and industrial or other wastes discharged from mines or commercial or industrial or ore processing plants or operations, through treatment and disposal facilities installed and operated in accordance with plans submitted to and approved by the committee on water pollution under ch. 144, or in compliance with orders of that committee. Any such order shall be subject to modification by subsequent orders.

Exhibit C

EXCEPTIONS.

(1) GENERAL PROHIBITION. Unless a permit has been granted by the public service commission pursuant to statute or the legislature has otherwise authorized structures or deposits in navigable waters, it is unlawful:

(a) To deposit any material or to place any structure upon the bed of any navigable water where no bulkhead line has been established;

(b) To deposit any material or to place any structure upon the bed of any navigable water beyond a lawfully established bulkhead line.

(2) PERMITS TO PLACE STRUCTURES OR DEPOSITS IN NAVIGABLE WATERS.

(a) The public service commission may, upon application and after notice and hearing, grant to any riparian owner a permit to build or maintain for his own use a structure otherwise prohibited by statute, provided such structure does not materially obstruct navigation or reduce the effective flood flow capacity of a stream and is not detrimental to the public interest.

(b) A riparian owner may place a layer of sand or other similar material on the bed of a lake adjacent to his property for the purpose of improving recreational use upon obtaining approval as stated in this paragraph. An application for approval to put sand or other similar material on the bed of a lake for such purpose shall be made to the public service commission. Thereupon the commission shall notify the conservation director of such application, and the latter shall cause an inspection to be made of such proposal and of the location involved and shall report in writing to the public service commission whether the proposal will materially impair navigation or be inconsistent with the public interest. Thereafter the public service commission may disapprove such application in the event it finds the proposed

Exhibit D

work will materially impair navigation or be detrimental to the public interest. If the commission does not disapprove within 10 days after receipt of the report of the conservation director, approval is deemed granted. The applicant shall be notified by mail as to the manner of disposition of his application.

(3) PENALTY. Any person violating this section or any term or condition of a permit issued pursuant thereto shall be fined not more than $1000 or imprisoned not more than 6 months or both.

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
1217 U. S. POST OFFICE & CUSTOM HOUSE
ST. PAUL, MINNESOTA 55101

IN REPLY REFER TO
NCSCO-S

29 February 1968

Mr. Thomas J. Frangos, Director
Bureau of Water Resources
Wisconsin Department of Natural Resources
Division of Resource Development
Madison, Wisconsin 53702

Dear Mr. Frangos:

Reference is made to your letter of 30 January 1968 commenting on the public notice of this office, a copy of which is enclosed, announcing the proposal to revalidate the Department of the Army permit for Reserve Mining Company's deposition of taconite tailings into Lake Superior at Beaver Bay, Minnesota.

I appreciate your calling to my attention Sections 29.29(3) and 30-12, Wisconsin Statutes pertaining to deposition of wastes and deleterious materials into waters under the control of the State of Wisconsin. Your objection to deposition of tailings into Lake Superior at Beaver Bay, Minnesota, however, appear to be very general. On this basis, I would appreciate your elaborating on your objections to define the type and extent of pollution in Wisconsin waters which these tailings have caused, and to describe any specific instances of such pollution.

Your interest in the problem of pollution in our waterways is appreciated and any detailed comments which you may offer will be considered in the final decision in this matter.

Sincerely yours,

1 Incl
Notice

RICHARD J. HESSE
Colonel, Corps of Engineers
District Engineer

STATE OF MICHIGAN
MICHIGAN WATER RESOURCES COMMISSION

LAKE SUPERIOR ENFORCEMENT CONFERENCE
TECHNICAL COMMITTEE MEETING

February 11, 1971

1. Interpretation of Charge to Committee:

At the executive session of the Lake Superior Enforcement Conference held on January 15, 1971, a Technical Committee was established by the conferees to evaluate the feasibility of the various methods of tailings disposal available to the Reserve Mining Company and report back to the conferees within 45 days with its evaluation and recommendations.

2. Acceptable Methods of Disposal:

The various methods of disposal available to the Reserve Mining Company fall into two general categories consisting of the discharge of tailings to Lake Superior and on-land disposal.

The method or methods chosen by the Technical Committee for recommendation to the conferees must provide for the least environmental impact to the public. The filling of public waters should not take place for the benefit of a private entity.

Recommended Methods:

Alternate No. 2: Proposed Method - This method appears capable of eliminating the green water phenomenon which occurs with the present method of disposal. The disposition of the "fines" will be at a depth which will have the least adverse effect on the aquatic environment. The inshore areas which contain the highest population of aquatic life will be provided greater protection than from the other methods utilizing the lake.

Alternate No. 3: Modified Proposed Method - Essentially the same as Alternate No. 2 with recirculation of clarifier overflow for reuse.

Exhibit A-11

Alternate No. 6: Coarse to Lake, Fines to Land With Recirculation - This method would correct the green water phenomenon but would still add to the disposition of materials on the delta in Lake Superior. The fine tailing area on land would destroy a portion of land from future use at least until cessation of operation. A potential dust problem is evident at the fines disposal area as would be the case at all on-land disposal areas. The recirculation of overflow water would result in greater protection from the possible adverse effects of the pond overflow on Lake Superior.

Alternate No. 7: Coarse to Lake, Fines to Land, No Recirculation - Same as Alternate No. 6 except shorter pond life and less protection of Lake Superior from possible adverse effects from overflow.

Alternate No. 8: Total Tailings on Land, Recirculation - This method would provide the greatest protection of the waters of Lake Superior. Due to the large area of land needed for disposal of the tailings it is essential that careful consideration be given to providing the least harm to the total environment. The dust problem inherent to on-land disposal methods may be somewhat less than Alternates 6 and 7 due to the coarse tailings providing some protection from erosion of the "fines".

Alternate No. 9: Total Tailings on Land, No Recirculation - Same as Alternate No. 8 except it provides less protection of the receiving waters from the overflow of ponds.

Alternate No. 10: Relocation of Beneficiation Plant - This method would provide the least impact on the environment of the on-land disposal methods as the area is already being utilized for mining. It would offer the same protection of Lake Superior or other receiving waters if properly designed as Alternates 8 and 9.

Rejected Methods

Alternate No. 1: Present Method - Present method unacceptable due to occurrence of the green water phenomenon.

Alternate No. 4: Lake Shore Tailings Pond - Large area of shoreline and prime inshore water area destroyed. Height of dykes makes this undesirable from an aesthetic standpoint.

Alternate No. 5: Solids to Denuded Area - As there is no area of such in the vicinity, this method would not be feasible.

3. Other Items that Need Consideration:

With respect to the comments offered on the various alternate methods of disposal, it is the State of Michigan's firm belief that the primary responsibility in preventing and controlling water pollution rests with the state in which the discharge is occurring. With respect to the Reserve Mining Company, the record clearly shows that the State of Minnesota is exercising this responsibility and that its requirements will correct the water pollution problem. To this end, it is imperative that the conferees make available to the State of Minnesota such technical services and counsel as may aid the state in carrying through with its program.

## DISCUSSION

The technique committee was guided by the overall policy of maximum production and enhancement of the quality of land, air and waters by efficient use of the State of Minnesota's resources for the maximum benefit of all the citizens of the nation. On the basis that Reserve Mining Company is a Minnesota corporation and is engaged in mining within the State of Minnesota and is within the jurisdiction of the State, the primary responsibility in preventing and controlling pollution is the State of Minnesota.' The states of Wisconsin and Michigan are contributors to Lake Superior and have a real interest in preserving the high quality of the waters of the Lake and to this common end, of all the states, wish to give assistance upon request of the PCA of technical Services and counsel to assist the State in carrying out its responsibility for pollution control of land, air and water.

The methods of disposal reviewed by the committee include basically the following:

(1) Relocation of the ore crushing and concentration facilities at the mine.

(2) A modification of the present disposal method allowing the deposit of tailings within the lake so that the aesthetic problem of green water is eliminated. This is essentially ~~it~~ the conclusion arrived at by Judge C. Luther Eckman of the Lake County District Court who heard testimony on the matter and

issued a court order to this effect on Dec 15, 1970.

(3) The location of a tailing basin on land with the effluent from the tailings pond recirculated for reuse or discharged to surface waters. Any discharge would have to meet the Agency's regulation establishing standards for effluents.

Recognition was given to the fact the Company has a permit issued by Minnesota agencies and did build a plant at Silver Bay. However, laws and regulations change and it is without dispute that a company planning on constructing a plant such as Reserve has today, would be required to provide on land disposal facilities.

It is clear that to determine what the company must do, requires the balancing the values of on land disposal contrasted with lake disposal. Everyone agrees on one thing that some change of the waste disposal methods used by Reserve Mining is necessary.

Always in the thoughts of the committee is the financial burden any method of disposal would weigh on the Reserve Mining Company. The cost to the Company must be reasonable to keep it liable and competitive. The industry is of great importance to the State and nation and if it were to close great social problems would result. The committee under this awesome responsibility compared possible disposal methods.

It appears that a flocculant will be used whether or not there is on land or modified lake disposal.

If waste water is going to be discharged to surface waters more information is needed on the toxicity of the chemical flocculents used on biological life. It is true that the chemical may be certified for use in drinking water treatment plants by the

U.S. Public Health Service but still have toxic effects on other organisms.

Recirculation of waste water may effect the company's product quality. This side effect needs more complete study.

The company proposes to thicken the tailings by settling and flocculents and convey the underflow into the lake bottom. The overflow would be discharged 30 feet below the surface of the lake. The main critism of this method is that there will still be fine particles in suspension which may cause green water. The Company is willing to use a mathematical model to determine where the overflow will go once it is in the lake and will make a scale model if necessary.

The committee developed criteria to consider various proposals and present them to the conferees for consideration.

The investigations found that there were objections to all proposals but never the less a solution minimizing the social, economical and environment must be provided.

For on land disposal the impoundment must be at a distance from the coast of Lake Superior so as not to degrade the land use of the surrounding area. Other problems must be solved by engineering. Dikes must be constructed and maintained so as not to pose a potential threat of breaking and spilling its contents to a drainage pattern to the Lake. The decant waters should be reused rather than returned to surface waters even if effluent standards can be met. We know that only a small concentration of tailings in the lake is needed to cause green waters. Dusting will result unless special controls are used. After a basin is filled, a reclamation program will be needed to restore the area to its natural appearance. Many mining companies have used settling basins with recirculation with success for a number of years. The on land disposal objections are more easily controlled than discharge to surface waters. ¶In water disposal hides the tailings but if any damage is done it is for all practical purposes irrevocable. Any in water discharges runs the risk of still causing green water. The deep water insection system may reduce the visible aesthetic problems of the present system. There is strong objection to using the lake as a dump ground.

For the company to discharge tailings to the lake, Reserve would have to secure a variance from WPC-15. A granting of a variance would require careful consideration, so as not to compromise pollution control.

MINNESOTA POLLUTION CONTROL AGENCY
Division of Water Quality

Preliminary Working Draft of a Report of the Lake
Superior Technical Committee to Investigate Alternate Proposed
Methods of Taconite Tailings Disposal at Reserve Mining Company,
Silver Bay, Minnesota
February 10, 1971

## Interpretation of Charge to Technical Committee

The Committee was appointed to represent the individual Conferees and to prepare for the Conferees, within 45 days, a report.

The Committee will in an unbiased manner consider land disposal as well as underwater disposal and variations and modifications thereof for evaluation.

It was not intended that the Committee make on site surveys or that they be expected to undertake detailed engineering studies necessary to make an independent appraisal.

The Committee should look at the feasibility of the various methods and work with Reserve Mining Company and others to take advantage of their thinking.

The Committee will not vote on any particular plan but rather will get at the facts of each alternative and if a difference of views develops the Conferees would like to look at all of them.

## What the Committe Did

This section is historical and will be prepared by Dale Bryson.

## Policy, Legal Constraints and Standards Effecting the Committee Decision

In order to properly consider the various methods having been proposed one must first consider what are the criteria for evaluating such proposals.

It appears that there are several criteria that must be itemized and stated in order to weigh the various proposals against them.

These criteria are not the product of this Committee but they represent the various limitations and proposals as expressed in the record of this Conference.

The basic criteria are as follows: the policy of the state is Maximum protection and enhancement of the quality of the states land, air, and waters by efficient use of the state's resources for the maximum benefit for all the citizens.

Exhibit A-13

1. Requirement for complete on land disposal of tailings.
2. Requirement that the discharge meet all applicable effluent standards.
3. Requirement only that the discharge eliminate aesthetic problems.

From a practical standpoint criteria number 1 and 2 are the same.

Requirement number 3 is essentially the basis of Judge Eckman's ruling relative to Reserve Mining Company's appeal.

These three criteria as they have been discussed relate to the Lake only but certain of them have an effect on the land resource and this is a consideration that should not be ignored. Without making any judgement at this point we will be faced eventually with balancing one resource against another, i.e.; potential water damage against potential land damage.

In addition to the three criteria cited we have heard proposals that involve combinations of these. For example, disposal of coarse tailings to the Lake with the fines discharged to a land system, or total tailings disposed of to a land system with pond overflow water discharged to the lake either directly or to tributary waters.

One can for example categorically say that the present method being used by the Company is unsatisfactory because it has been adequately demonstrated now that it causes water degradation, for example, the "green water" associated with taconite fines. One need not establish a dollar damage to prove that damage exists.

Similarly one could categorically say that complete removal of all discharges to the Lake would present no water hazard to Lake Superior.

Considering the Lake only these are the two easiest systems to evaluate.

The Committee sixteen criteria grouped under "Water Considerations," "Land Consideration" and "Other Considerations" were developed to enable evaluation of not only the two extreme situations cited above but various combinations of land and water disposal. This scheme of setting down various criteria considerations and relating them to alternative disposal methods brought out considerable discussion with the people the Committee contacted. In that regard the questionnaire ~~[illegible]~~ served a useful purpose.
~~[illegible]~~

general comments to be made should be of assistance to the Conferees.

### On Land Disposal

Any of the land disposal methods would "create" a land based problem primarily of esthetics. These problems would be local in nature and the severity of the problem a function of where the disposal area is located.

Most would agree that the north shore area being highly prized for its scenic beauty is an undesirable area for tailings disposal.

Operational and post-operational maintenance of tailings ponds in areas of high relief and rugged terrain have also been cited as a problem.

It should be noted however that in comparing potential land damage to potential lake damage that the areas involved are vastly different. One runs the risk in any lake disposal method of dispersion by lake currents which has been one of the criticisms of the present system.

Certainly on land disposal of tailings provides for the maximum protection of the lake.

### Underwater Disposal

Total underwater tailings disposal systems as proposed by the Company would of course be inconsistent with presently established water quality (effluent) standards and a variance therefrom would be required.

The modified disposal system as proposed by the Company would certainly provide a more desirable system than that presently being used since surface currents and storm action would not have the transport effect that now exists.

It would appear that the deep water injection method would have considerable likelihood of eliminating the visible esthetic problems of the present system.

Esthetics in the public's eye however seems to go beyond visible displays at the lake surface. There seems to be a consensus among those concerned that the simple utilization of Lake Superior as a dump ground is objectionable aside from visible evidence of damage.

The problem of filling in the lake does not appear to be of serious significance due to the great depths of water involved.

There has been introduced into the record of this conference some testimony relating to the possible long term adverse effect of dissolved solids associated with the tailings discharge. The proposed method would not eliminate that effect although recirculation may reduce the quantities of dissolved solids discharged. It would in addition however, add coagulants to the discharge and the effect of these has not been fully investigated to date.

The proposed Company method involves the use of the harbor for use as a recirculation sump for clarifier overflow which will contain some fines and the reliability of containing these fines in the harbor proper is suspect. It appears in fact that the Company is relying on some lake interchange to control chemical build up in the system.

## Conclusions

If the Conferees are to accept as a requirement that total on land disposal of tailings is required then the choice would be limited to the location of tailings pond sites. As pointed out previously the immediate locality of the plant seems poor from an esthetic standpoint.

If the Conferees are to accept as a requirement that all applicable standards be met then the decision is the same as stated above since water disposal of tailings would require a variance from standards.

Judge Eckmans ruling would have a bearing on both of the above choices unless that is sufficiently modified by a pending motion before the Court.

If the Conferees are to accept as a basis for selecting an alternate method that the problem is in fact only one of esthetics then it would appear that a modified version of the Company proposal could be acceptable.

Although on-land disposal may be objectionable as another barren dump and as a source of a potential dust problem, we believe that these difficulties are temporary and can be adequately managed. Technically, proper reclamation can restore and stabilize the land to the character of the surrounding terrain. It is most desirable that the company recirculate the supernatant from the ponds. A discharge of overflow from the ponds would overwhelm the limited flow of any tributary streams and change the natural character of the small waterways.

Any proposed method must be considered by the compelling lights of economic effects. To require the company to spend great amounts is not realistic. Reserve Mining Company must be able to economically compete with other ore sources, domestic and foreign. The company will certainly view any requirement of expenditures on the long-term basis and on the availability on the iron ore market of other ores of the same grade or higher.

Any negotiations with the company on the method of disposal must be done with understanding, forbearance, and firmness to achieve the water pollution control goals and keep the company viable.

Second Draft, March 2, 1971
for discussion only

LEK

The technical committee was guided by the overall policy of maximum protection and enhancement of the environment for the maximum benefit of all citizens. On the basis that Reserve Mining Company is operating in the state of Minnesota and is under the jurisdiction of the state, primary responsibility for controlling water pollution rests with the state of Minnesota. The states of Wisconsin and Michigan also border Lake Superior and they therefore, have a significant interest in preserving the high quality of the waters of the lake.

Recognition was given to the fact the Company has a waste disposal permit issued by Minnesota and based thereon, did build a plant at Silver Bay. However, laws and regulations change, and it is without dispute that a company now planning to construct a plant such as Reserve's would, at present, in any of the three states be required to provide On-land disposal facilities.

~~[illegible]~~

Everyone agrees that a change in the waste disposal methods now used by Reserve Mining is necessary. It is clear that to determine what the company should do requires balancing of on land disposal against lake disposal.

Any new method of disposal would present an added cost to Reserve Mining Company. The cost to the Company must be reasonable so as to keep it viable and competitive. The company is of importance to the State and if is were to close down its operations here severe problems would result.

The Company proposes to thicken the tailings by settling and flocculents and convey the underflow to the lake bottom. The clarifier overflow would be discharged 30 feet below the surface of the harbor. One objection to this method is that there will still be fine particles in suspension which may cause green water. The Company is willing to do mathematical and hydraulic model studies to determine where the overflow will go and it probable effects if necessary.

For the Company to continue to discharge any tailings to the lake, it would have to secure a variance from regulation WPC 15 from the Agency.

## Discussion

The technical committee was charged with considering several alternative disposal methods including the one proposed by Reserve Mining Company.

The committee recognizes that the governors of Minnesota and Wisconsin have stated that only On-land disposal would be acceptable.

The committee recognizes that the conferees do not expect it to select a sole method of disposal nor do they expect detailed engineering evaluations.

The committee interprets its responsibility as one of evaluatnating the various methods of disposal and pointing out significant advantages and disadvantages.

The committee recognizes that a large number of methods have been proposed (Reserve Mining Company evaluated 19 and bhe committee itself considered 10 methods for discussion purposes) but it is important to note that only three basic types of disposal are involved: These are total in-lake disposal, total on-land disposal and a combination of the two.

The committee prefers to discuss the three basic methods rather than deal with the numerous variations which in essence involve only different manupulations of the tailings prior to ultimate deposition.

The committee considers the listing of certain facts advisable prior to discussing the three basic disposal methods since there are pertinent to all methods.

1. The commonly required practice in Minnesota, Wisconsin and Michigan for the taconite industry today is on land disposal of tailings with a recirculation system, which may or may not use flocculants.
2. Reserve Mining Company's present system is unacceptable as it was designed to make maximum use of Lake Superior for tailings disposal. The Company's entire operation is directly or indirectly related to such use of Lake Superior.
3. A ruling of the District court having jurisdiction in the matter of Reserve Mining Company's disposal system as it relates to the interstate water quality standards (regulation WPC 15) has been made and is noted by the Committee. The Committee makes no conclusions relative to the court's ruling.
4. The Committee is cognizant of the significanbe of costs of waste disposal methods but it has no information on which to evaluate the acceptability of such costs to the Company. It is assumed that the cost of $15,000,000 cited in the Company proposal is acceptable.
5. Certain damages to the waters of Lake Superior by the tailings have been demonostrated in the proceedings of this conference. These relate mainly to esthetics, the addition of dissolved solids, and the migration of suspended solids.
6. The committee feels the criteria it used to review the various alternatives represent important considerations that the conferees might wish to use in preparing its recommendations.
7. On-land disposal and in-lake disposal present tow distinct sets of environmental effects that should be considered by the conferees.

## Total On-Land Disposal

This method would unquestionably provide the highest degree of protection to Lake Superior since it involves cessation of all discharge to the lake.

On land disposal need not be limited to the Lax Lake area. The sifnigicance of this proposed site seems to relate to its having been citied in a cursory cost study by the U. S. Bureau of Mines.

In any event, if a binding decision is made by the Concerned governmental agencies and the courts that all tailings must be removed from the lake, decisions regarding on sites, costs, feasibility, etc. from that point will reside solely with the Company. Recirculation of waste water may affect the Company's product quality. This side effect needs more complete study.

Any on-land disposal system will present certain adverse effects on the environment. These effects may be intense, but are relatively limited in area extent, and there is inherently a higher reliability of control than is the case with in-lake disposal even though effects of the latter may be quite subtle.

## In-Lake Disposal

The present system now used by Reserve Mining Company releases tailings at the surface, with dependence on a density current carrying the tailings to the depths of Lake Superior.

Currents, storms, temperature changes and other factors have caused unsatisfactory conditions to develop.

The present system also contributes dissolved solids to the lake which present a potential problem.

The method proposed by the Company would appear to afford a higher degree of protection against surface effects as compared to the present system.

The proposed method would conceivably reduce the amount of dissolved solids but not completely eliminate them. The proposed use of flocculants would require further study to assure their acceptability.

Any method involving the discharge of tailings to the lake would violate existing state and federal standards and therefore require a variance.

## Combinations of Disposal Methods

One method would be to dispose of all tailings on-land with clear basin overflow being returned to the lake. Assuming acceptable quality of the effluent this method would provide a high degree of protection for the lake.

Another scheme involves separation of coarse and fine tailings with only the latter disposed of on-land. Considering the information presented to date one must conclude that the fines are the most detrimental part of the tailings 1/ and on that basis it would be argued that on-land disposal of the fines alone could be sufficient.

The latter method would not, however, overcome two basic objections1/ to in-lake disposal, i.e., standards violation, and dissolved solids addition, although it could reduce surface displays of green water attributable to the fines.

# REPORT ON TAILINGS DISPOSAL
# AT
# RESERVE MINING COMPANY'S PLANT
# SILVER BAY, MINNESOTA

Prepared by

Twin Cities Office of Mineral Resources
U. S. Bureau of Mines

E. 58th Street at Mississippi River
Minneapolis, Minnesota 55417

Exhibit A-15

## PUMPING COST ESTIMATES

Many suggestions have been made regarding alternate solutions to Reserve Mining Company's discharging tailings into the Lake. The two most common suggestions are to return the tailings to the mined-out areas or to pump the tailings to a tailings pond located on the high ground above the plant.

The first suggestion, to return the tailings to the mined-out areas, will for many years be impossible because there are no completely mined-out areas.

The second suggestion, to deposit the tailings in a pond on the high ground above the plant, creates many problems. Objectionable effects of a tailings pond would have to be carefully weighed against the effects of depositing the tailings in Lake Superior. The area nearest Reserve is valued as a resort and recreation area; most of the area farther removed is in the Superior National Forest. A tailings pond could create a serious air pollution problem due to dust unless properly designed and operated.

Disposal of the tailings in a pond as near as possible to the plant obviously would be the least costly alternative to depositing the tailings in Lake Superior. The Bureau of Mines was requested to make a preliminary cost estimate of such a plan. Ignoring the objections stated above, the most economic site would probably be in the area just northwest of the Reserve plant (figure 2). The Bureau of Mines is not recommending this site for tailings disposal, nor can it make recommendations of this or any other site until the quantity and nature of the detrimental material, if any, that Reserve is contributing to Lake Superior is established.

FIGURE 2. - Possible tailings pond locations showing elevations of 1150 feet and 1300 feet.

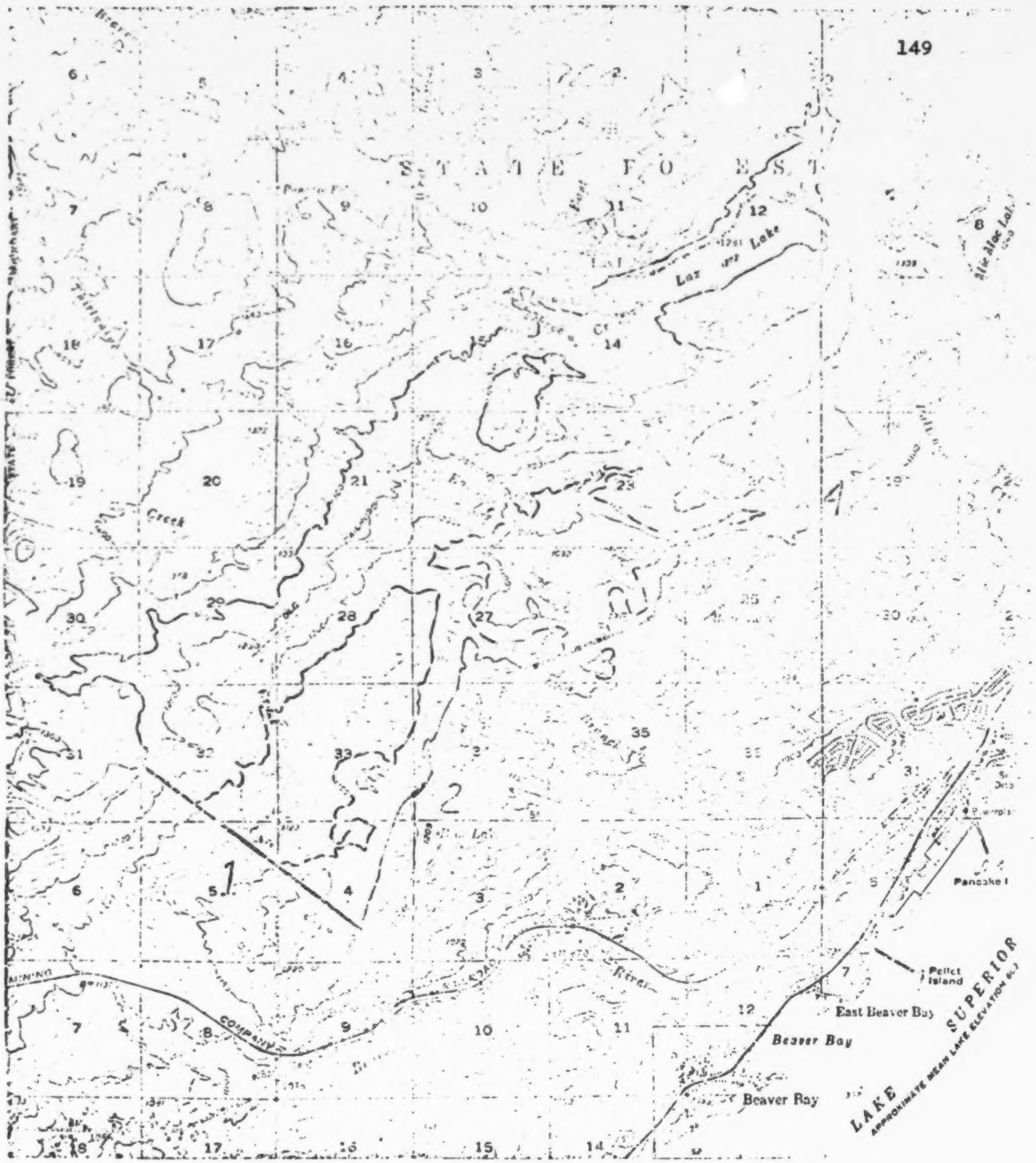
STATE FOREST
Lax Lake
Creek
River
1
2
3
Pellet Island
Pancake I
East Beaver Bay
Beaver Bay
Beaver Bay
LAKE SUPERIOR
APPROXIMATE MEAN LAKE ELEVATION 602
MINING COMPANY

FIGURE 2. - Possible tailings pond locations showing elevations of 1150 feet and 1300 feet.

The preliminary cost estimates, tables 9 and 10, were prepared without benefit of any field work. It was assumed that construction materials are available nearby, that no unusual dike or foundation conditions exist, and that power for operation of the pumping facilities is available. No provision for emergency discharge of tailings in case of a power failure or freezing of tailings lines is included, the assumption being that an emergency spilling of tailings into Lake Superior would be permitted.

TABLE 9. - Preliminary cost estimates of dike construction[1]

| Top elevation (mean sea level) | Soil dike (cubic yards) | Total cost soil dike | Rock dike (cubic yards) | Total cost rock dike |
|---|---|---|---|---|
| 1150 | 5,000,000 | $ 6,250,000 | 1,300,000 | $ 4,550,000 |
| 1200 | 9,000,000 | 11,250,000 | 3,000,000 | 10,500,000 |
| 1250 | 25,000,000 | 31,250,000 | 8,000,000 | 28,000,000 |
| 1300 | 55,000,000 | 68,750,000 | 20,000,000 | 70,000,000 |

[1] Estimate by St. Paul District Corps of Engineers.

Figure 2 shows the areas and dike locations of possible tailings ponds built to top elevations of 1150 and 1300 feet. The areas inundated range from 2 to 12 square miles. The approximate quantities of tailings that can be held at various top elevations are as follows:

| | |
|---|---|
| 1150 feet | 55 million long tons |
| 1200 " | 280 " " " |
| 1250 " | 715 " " " |
| 1300 " | 1,400 " " " |

Dividing each capacity by 20 million long tons per year will give the approximate length of time required to fill the tailings pond to each elevation.

In addition to dike construction, provision would have to be made for handling the large runoff from spring floods. This would require spillways, rerouting the natural drainage, or pond capacity to hold the floods. If the overflow from the tailings pond was unacceptable as discharge into the natural drainage, additional facilities would be required to return the overflow to the plant for reuse. These items were not included in the cost estimate.

TABLE 10.- Preliminary cost estimate of pumps, pipeline and thickener[1]

| Distance (miles) | Vertical lift (feet) | Total capital investment | Component costs | | |
|---|---|---|---|---|---|
| | | | Pumps | Thickener | Pipeline |
| 3½ | 600 | $2,984,900 | $1,493,700 | $1,104,400 | $386,800 |
| 4½ | 700 | 3,371,900 | 1,770,300 | 1,104,400 | 497,200 |

[1] Estimate by Bureau of Mines Process Evaluation Group, Morgantown, West Virginia.

Summary of preliminary cost estimate of pumping and containing Reserve tailings:

Capital costs

| | |
|---|---|
| Initial dike work to elevation 1150 | $ 4,500,000 |
| Initial pipeline, pumps and thickener | 3,000,000 |
| Total initial investment | $ 7,500,000 |

Operating Costs (yearly)

| | |
|---|---|
| Pumping | $ 2,000,000 |
| Average yearly dike rise requirements | 1,300,000 |
| Yearly total | $ 3,300,000 |

These estimates do not include cost of land acquisition nor return of investment.

This preliminary cost estimate must be considered as very conservative because of the many unknowns and contingencies not taken into account. A more realistic cost estimate would require several months of work and thorough field examination of proposed sites. Actually, an acceptable alternate to Reserve's deposition of tailings in Lake Superior could cost several times this most conservative estimate in what may be a very objectionable location.

## CONCLUSIONS AND RECOMMENDATIONS

The sampling techniques and procedures for preparing sample pulps gave reliable results for the major minerals (those reported in percent), and for the screen analysis. Calculated tailings composites of these, using the mill balance of August 24, 1966, compared well with the actual tailings composite analyses.

Trace elements gave erratic results from day-to-day and did not check out in a mill balance. To establish more accurately the quantities and normal variation of these elements in the tailings will require exacting procedures and numerous samples.

When considering alternates to tailings deposition in Lake Superior, benefits gained should be compared to possible losses; i.e., would a tailings pond and a possible air pollution problem in a particular area be less objectionable than depositing tailings in Lake Superior?

March 3, 1971

Lt. General Frederick G. Clarke
U.S. Army Corps of Engineers
Waterways Experiment Station
Public Affairs Office
Vicksburg, Mississippi

Dear Lt. General Clarke:

As you know, the issue over the continued dumping of taconite tailings by Reserve Mining Company in Lake Superior has become a major controversy of national importance. The people of Minnesota are insisting that Reserve Mining Company dispose on-land all taconite tailings from its operation at Silver Bay, Minnesota.

My first official act as Governor of Minnesota was to join the State of Minnesota as a full partner in the Lake Superior Federal-State Enforcement Conference. At the time of joining, I stated that Minnesota will not allow the continued dumping of these taconite tailings in Lake Superior beyond a reasonable time for construction of on-land disposal facilities. I wish to apprise you of this new policy and provide some information which may be helpful in your review of the Corps of Engineers' permit issued to Reserve.

I have been informed by Grant J. Merritt, Executive Director of the Minnesota Pollution Control Agency, that Reserve Mining Company has not been issued a permit under Section 13 of the River and Harbor Act of 1899. Reserve's federal permit was originally issued by the Corps in 1948 under Section 10 of said law which provides for excavation or fill rather than under Section 13 which provides for deposition of refuse or other materials.

Furthermore, Reserve is not an applicant for a permit within the provisions of the Federal Water Quality Improvement Act of 1970 nor has Reserve Mining Company provided the Corps of Engineers with state certification under Section 21 of this 1970 law. If Reserve applied for such certification, the State of Minnesota could not and would not certify the continued dumping of taconite tailings in Lake Superior. Any state certification of Reserve's discharge operations would violate the new Minnesota policy prohibiting dumping of taconite tailings in Lake Superior and would violate the interstate water quality and effluent standards applicable to Reserve.

In view of the foregoing, the State of Minnesota hereby respectfully requests immediate revocation of Reserve's U.S. Army Corps of Engineers permit. Minnesota also requests issuance of a conditional permit authorizing Reserve to continue the dumping of taconite tailings in Lake Superior only under the following conditions:

1) That Reserve begin immediate construction of suitable and approved on-land disposal facilities, and,

2) That the conditional permit continue for a reasonable period, not to exceed two years, pending completion of the on-land disposal facilities.

I look forward to your reply and if there is anything the State of Minnesota can do to assist the Corps of Engineers in resolving this matter, please feel free to contact me.

Sincerely,

Wendell R. Anderson
Governor

WRA:lp

cc: Senator Hubert H. Humphrey
Senator Walter F. Mondale
[redacted]
Colonel Charles McGinnis
William Ruckelshaus

# MINNESOTA POLLUTION CONTROL AGENCY

## Division of Water Quality

### Memorandum on Reserve Mining Company's Waste Disposal Permit

The former Minnesota Water Pollution Control Commission after very extensive public hearings and technical testimony, on December 16, 1947 issued to Reserve Mining Company a permit to discharge 130,000 gallons per minute of water with taconite tailings in suspension to Lake Superior from the Silver Bay plant.

On November 12, 1956, after another public hearing, the permit was amended to allow a discharge of 260,000 gallons per minute.

On September 8, 1960, after another public hearing, the Water Pollution Control Commission again amended the permit to allow a discharge of 502,000 gallons per minute.

The permit contains certain conditions incorporated as a result of the testimony presented by the applicant relative to the discharge and its effect on Lake Superior.

Those conditions, which are few, are the subject of this memorandum. It is not the purpose to discuss the merits of the conditions imposed. Further it is necessary to understand that the permit established a "zone of discharge" described from the point of discharge and encompassing nine (9) square miles.

The conditions imposed upon the character of the discharge and its effect on the lake are lettered a through d, with the remainder (d-e), being general conditions regarding ownership, liability, assignment, etc.

Condition (a) relates to the taking of ore and defines the type for the purpose of avoiding the use of hematite or red oxide of iron.

Comment: No violation.

Exhibit A-17

Condition (b) relates to the character of the discharge as follows:

> The tailings discharged from said taconite beneficiation plant shall consist only of the crushed or ground residue of taconite as hereinbefore described after extraction of iron ore therefrom, with the water in which such residue is suspended, and neither such tailings nor the water returned from the power plant shall include any material quantities of matter soluble in water, organic matter, oil, sewage, or other waste except such taconite residue.

Comment: This condition has been modified by agreement with the Commission which allowed for the inclusion of fly ash with the tailings on a temporary revocable basis.

The company further at certain times of the year uses calcium chloride in the shipping of ore to prevent freezing. This occurs at the same time that highway chemicals are being used in the area and is not peculiar to Reserve's operations.

We see no significant violation with the intent of this condition which is basically to exclude organic matter, oil, sewage, and problem chemicals.

Condition (c) relates to the establishment of a zone of discharge and defines only the areal extent of the zone.

Condition (d) relates to the effect of discharge of' tailings on the lake and includes certain interpretive phrases as follows:

> Such tailings shall not be discharged so as to result in any material clouding or discoloration of the water at the surface outside of said zone except during such time as turbidity from

natural conditions in the adjacent portions of the lake outside of said zone may be caused by storms, nor shall such tailings be discharged so as to result in any material adverse effects on fish life or public water supplies or in any other material interference with navigation or in any public nuisance outside of said zone.

Comment: The key words in this condition when considering a violation are material clouding or discoloration at the surface and material adverse effects on fish life or public water supplies or in any other material unlawful pollution.

The dictionary defines "material" as being "of substantial import, of much consequence, or important".

In that context of the terms of this condition we can see no supportable evidence for a violation in any studies completed by this agency or anyone else to date.

STATE OF MINNESOTA

COUNTY OF LAKE

DISTRICT COURT

SIXTH JUDICIAL DISTRICT

---

Reserve Mining Company,

Appellant,

vs.

Minnesota Pollution Control Agency,

Respondent.

---

AFFIDAVIT OF

GRANT J. MERRITT

Grant J. Merritt, having been first duly sworn, on oath deposes and says:

1. I am the Executive Secretary and Chief Executive Officer of the Minnesota Pollution Control Agency.

2. I am the official custodian of the minutes of said Agency.

3. The attached is a true and correct copy of the minutes of said Agency's meeting of February 8, 1971, as amended and approved by said Agency at its meeting of March 8, 1971.

4. There is no official seal for the office which I hold.

Further affiant saith not.

Grant J. Merritt

STATE OF MINNESOTA )
) ss
COUNTY OF HENNEPIN )

Subscribed and sworn to before me
this 5th day of April, 1971.

Charles A. [illegible]

Notary Public

# STATE OF MINNESOTA

## Pollution Control Agency

The meeting was called to order at 9:10 a.m. by Dr. Howard A. Andersen, Chairman of the Agency on Monday, February 8, 1971, in the Board Room of the State Board of Health Building, Minneapolis, Minnesota.

PRESENT:

Agency Members:

Dr. Howard A. Andersen, Chairman
Mr. F. Wayne Packard, Vice Chairman (Arrived 9:20 a.m.)
Mr. Mace Harris (Arrived 9:20 a.m.)
Professor John Borchert (Arrived 10:00 a.m.)
Mr. Homer C. Luick
Mrs. Dorothy Nelson
Mr. Robert C. Tuveson
Mr. Milton J. Fellows
Mr. Steve J. Gadler

Mr. John P. Badalich, P.E.
Executive Director

Mr. Lyle Smith, P.E.
Acting Assistant Executive Director

OTHERS PRESENT:

Division Directors:

Mr. Floyd Forsberg, Division of Solid Waste Management
Mr. Ed Wiik, Division of Air Quality
Mr. C. A. Johannes, Division of Water Quality

Special Assistant Attorneys General:

Mr. Robert Lindall
Mr. G. Robert Johnson

Staff:

Mr. Robert Ray, Information Representative
Elaine M. Embretson, Recording Secretary

News Media:

Bob Goligoski, St. Paul Dispatch
Dale Fetherling, Minneapolis Tribune
Jim Talle, Minneapolis Star

Visitors:

Mr. Robert Crew, Special Assistant to the Governor
Mr. Jack Mason, Solicitor General

## APPROVAL OF THE MINUTES:

Mr. Luick moved for approval of the minutes of the January 11 and 12, 1971, Agency meeting. Mr. Tuveson seconded the motion and it was carried unanimously.

## RESUME OF LEGAL ACTIONS:

### Reserve Mining Case

Mr. Jack Mason, Solicitor General, from the Attorney General's office, advised the Agency that on February 5, 1971, he served and filed a motion for amended findings of fact and conclusions of law for a new trial in the matter of Reserve Mining Company's appeal of WPC 15 and our counter claim. No hearing date has been set but it is likely to be some time in March. He also advised that no further action by the Agency is needed at this time.

### Northern States Power Company's Monticello Plant

Mr. G. Robert Johnson reported on the status of this litigation. He said that the Agency filed notice of appeal on January 14, 1971, with the Circuit Court of Appeals in St. Louis, Missouri and is presently being prosecuted.

### Aldrich Creamery

Mr. Robert Lindall announced that the company agreed to the issuance of a court order in January of 1970, that the company may be in violation of the court order and that a trial on that question will be given on February 9, 1971.

## RESUME OF LEGISLATION INTRODUCED CONCERNING THE AGENCY

Mr. Badalich informed the members of the legislation regarding environmental matters that has already been introduced in the legislature totaling some 40 bills relating to matters such as prohibition of tailings deposit, noise pollution, refuse disposal sale of economic poisons, mandatory certification, prohibition on nonreturnable containers, abandoned autos, etc.

Also included in this presentation was the status report on S.F. 50, noise pollution authority to the Agency, H.F. 79, Mandatory certification of waste treatment plant operators; H.F. 180, the State Grant In Aid Program for municipalities, H.F. 284, the Environmental Protection Act; H.F. 236, the Abandoned Auto bill and several others.

Mr. Badalich advised that he and the attornyes have been working with the authors of these bills to work out the difficulties and they are being scheduled as soon as possible. He reported that he has been making many appearances before legislative committees to explain the Agency's budget appropriations and he distributed copies to the members of the budget recommendations.

Discussion developed from the members concerning the Agency's budget request for district engineers to work for the Agency and it was the consensus that ten engineers as proposed by the Agency to be hired at a staggered interval should be pursued and not go along with the Governor's recommendation of only three [illegible] engineers.

## RATIFICATION OF TELEPHONE POLL ON VILLAGE GREEN MOBILE HOME PARK

Following discussion from the members, Mr. Tuveson moved and Mr. Packard seconded the motion to confirm the previous telephone poll and amended permit as requested by the Village of Green Mobile Home Park. Motion carried unanimously.

## SOLID WASTE

Mr. Forsberg gave his Progress Report which is on file in the Agency office. He advised that a staff recommendation will be made at the March meeting in regard to the Hopkins Sanitary Landfill hearing.

Regarding the Kramers Burnsville Landfill, Mr. Forsberg advised that he would like to delay action on this until the March meeting and in regard to the Freeway Landfill, Mr. Forsberg recommended that Richard B. McGowan's permit be denied unless Agency regulations can be met.

Following disucssion, Mr. Tuveson moved and Mr. Fellows seconded the motion to deny the McGowan application for a permit for a sanitary landfill site. After further discussion, Mr. Tuveson withdrew his motion and Mr. Fellows withdrew his second.

Mr. Tuveson then moved that the staff be instructed to take appropriate action to include, if necessary, the denial of the application and to institute legal action against Mr. McGowan. Mr. Packard seconded the motion.

Mr. Richard McGowan then spoke in regard to the permit request concerning the Freeway Landfill in Burnsville.

After his presentation, Mr. Larry Johnson, of the Solid Waste Division, made an evaluation of the report submitted by McGowan's engineers and stated that the site is not amenable to conversion to a true sanitary landfill.

Mr. Packard then moved that the motion be tabled until the staff reports back to the members. Mr. Gadler seconded the motion and it was carried.

Mr. Fellows requested that some guidelines and allocations be established as to the feedlot regulations before the next meeting and Mr. Buscho of the Agricultural Advisory Committee supported his request.

## RESIGNATION OF EXECUTIVE DIRECTOR

Mr. Badalich announced that he was resigning his position as Executive Director of the Pollution Control Agency to be effective as of March 1, 1971. Immediately following his announcement, the entire Agency Board expressed their praise and admiration for his excellent achievements, energy and forthrightness during his three and one-half years and their regret in losing him as Executive Director of the Agency.

## WATER QUALITY

### Status Summary for Nine Mile Creek

Mr. Johannes gave the status report on this matter.

Following this report, Mr. Luick moved that the staff be authorized to take whatever action is necessary in order to enforce the clean-up of the abandoned salt stockpiling of the Glen Lake Warehouse Company. After discussion and the suggestion of Mrs. Charles Hunt, Chairman of the Nine Mile Creek Citizens' Committee, that the Eden Prairie Village Council be asked to take appropriate action in this regard, Mr. Luick withdrew his motion. Mrs. Hunt also recommended that the Hennepin County salt stockpile also be monitored and she appreciated the support of the Agency in this regard.

## AIR QUALITY

Mr. Wiik gave his Progress Report which is on file in the Agency office. Following his report, Mr. Badalich requested that Mr. Wiik submit to the Agency the revisions to APC 8 and the required modifications to APC 8, 9, 11 and 12.

Mr. Wiik also gave a Progress Report on the status of American Crystal Sugar Company and stated that they will close down their Chaska refining operation but they will maintain sugar distributing facilities there. He also gave a short resume of the Pine Bend situation.

## WATER QUALITY

### Sewer Systems

Bloomington-6718, Apple Valley-6719, Finlayson-6720, Plymouth-6721, Oakdale-6722, Fridley-6723, Redwood Falls-6724, Golden Valley-6725, Lakeville-6726, Maplewood-6727, Coon Rapids-6728, Norwood-6729, New Hope-6730, Lakeville-6731, Cottage Grove-6732, Edina-6733, Lilydale-6734, Brooklyn Park-6735, West St. Paul-6736, White Bear Lake City-6737, Maple Grove-6738, St. Louis Park-6739, Woodbury-6740, Brooklyn Park-6741, Chaska-6742, Chaska-6743.

Mr. Packard moved and Professor Borchert seconded the motion to approve these extensions. Motion prevailed.

### Sewage Disposal Systems

Rushmore-6717-Sewers and stabilization ponds, Lametti & Sons, St. Paul-6744-new, settling basin for tunnel construction waste, Big Stone Canning Company-Ortonville-6749-Spray irrigation system, *Boise Cascade Corporation, International Falls-6750, Primary clarifier and interim operation of system.

*Denotes those requiring special consideration.

Mr. Tuveson moved and Mrs. Nelson seconded the motion to approve these permit applications with the exception of Boise Cascade. Motion prevailed.

## Boise Cascade Corporation - International Falls

Mr. Johannes briefed the members of this situation.

Following a statement by Mr. Badalich that they must meet the requirements of WPC 15, Mr. Tuveson moved to approve the installation of a primary clarifier for Boise Cascade at its International Falls plant and imposed the further requirement that secondary waste treatment works be constructed but moved that no extension of time be given for their completion date. Mr. Harris seconded the motion and it was unanimously carried.

The meeting recessed for lunch and reconvened at 1:30 p.m.

## Liquid Storage Permit Application of NSP Company's Monticello Plant

Mr. Badalich reviewed the testimony and the findings of fact, conclusions of law and order based on that testimony. After consultation with Governor Anderson, the Agency had decided to hold the record open until February 8, 1971, pending depositions by Drs.Gofman and Tamplin.

Upon MECCA's refusal to proceed with the depositions as directed by the Agency, Mr. Packard moved to adopt findings of fact, conclusions of law and order granting the issuance of a permit for Northern States Power Company's Monticello Nuclear Generating Plant's liquid storage. Mr. Harris seconded the motion. After discussion, the motion was carried by a vote of 8-1, with Mr. Gadler voting against the motion.

## Reserve Mining Company

Mr. Ed Fride, Attorney for Reserve Mining Company, made a presentation to the Agency concerning a report by Reserve Mining Company entitled, "Plans to Modify Tailings Discharge System." Mr. Kenneth Haley and Dr. Weinberger also spoke concerning this report.

Mr. Fride then requested that the Agency appoint a committee to engage in whatever kinds of negotiations are necessary with Reserve Mining Company and Dr. Andersen stated that the members and staff would like to study this report further before any negotiations are entered into.

Mr. Tuveson advised that he felt the Agency had three problems in regard to this situation: 1) the court directed the Agency to explore the problems with Reserve and find an alternative method of discharge of their tailings, 2) keep in mind what the Attorney General is doing and 3) the Federal-State Enforcement Conference has appointed a technical committee to study this problem. He also advised that the Agency should make a detailed evaluation of this plan as presented at this meeting, and also evaluate the available information as to the desirability of on-land disposal.

Professor Borchert suggested that the Agency should continue studying staff reports and input and that the staff should study on-land disposal vs. discharge into Lake Superior of these tailings.

Professor Borchert then stated that he hoped the staff and the Agency is not committed to anything that has thus far been said in regard to land disposal of these tailings. He said that there are laws in the Minnesota Statutes that are related to land use and pollution abatement of the land. He felt that a serious land-use problem exists here and that there is a long history of on-land disposal of tailings and waste in the Mesabi Range and as one looks ahead, it is perfectly obvious that there will be a great deposit of tailings over the years in the vicinity of the Mesabi Range and that there are many questions that have to be faced as to how these tailings are going to be handled and what kind of lands are going to be zoned to accomodate them.

He also stated that if the Agency is going to consider the disposition of tailings in the Lax area or the Superior National Forest, a large part of the problem that has been heretofore confined to the range, will be moved down into one of the most scenic areas in the middle west. He feels that there is a real issue here as to under water disposition vs. on-land disposition somewhere on the north shore and he does not feel ready to make a decision as to what the solution should be at this time.

## Time Extension Requests

### Fergus [illegible]

After a resume of this situation by Mr. Johannes, Mr. Luick moved and Mr. Tuveson seconded the motion to grant the city the requested time extension for completion of sewer system improvements in light of the expenditures involved to December of 1972, contingent upon the submission of regular monthly reports on their progress toward compliance with the deadline. Motion carried.

### St. Cloud

Mr. Johannes explained this situation to the members.

Following his presentation, Mr. Luick moved to approve the modified time extensions as recommended by the staff. Mrs. Nelson seconded the motion and it was carried.

## Construction Grants Planning Contract with Creative Research Services, Inc.

Mr. Badalich reported on this matter.

Following his report, Mr. Luick moved and Mr. Fellows seconded the motion to approve this contract for $24,976 with Creative Research Services, Inc. to provide planning consulting services. The motion was carried with Mr. Tuveson abstaining.

## Regulations WPC 25-32 filed February 4, 1971

Mr. Badalich briefed the members on this situation and stated that the regulations had been filed.

## Resume of Reconvened Federal-State Enforcement Conference in Duluth on January 14 and 15, 1971.

Mr. Badalich advised the Agency that a technical committee had been set up at this conference to review the plans of Reserve Mining Company to arrive at some alternatives. He also advised that Mr. Murray Stein, the Chairman of the Conference, stated that this committee could look at the feasibility of the company's proposed plan and have consultations with Reserve. The Minnesota representatives on the technical committee are Mr. Badalich and the staff resource members assisting him are Messrs. Lovell Richie, George Koonce and C. A. Johannes. Mr. Badalich stated that he will attend the February 11 meeting of this committee.

## NEMDA PROPOSAL

Mr. Badalich reported on this matter and said that through the recommendation of Mr. Francis Mayo, Regional Director of the EPA, the conferees of the Lake Superior Enforcement Conference concur with the State of Minnesota in the granting of a moritorium on an interim basis for the municipal and industrial dischargers within the Duluth-Superior-Cloquet area until July 1, 1971, to permit the passage of enabling legislation and the development of the necessary operating district. If the legislation and operating agency is not developed by this time, the earlier established schedule for compliance will remain in effect.

Mr. Badalich reported on a meeting he had with Mr. William D. Ruckelshaus Administrator of the EPA in Washington, D.C. He stated that Mr. Ruckelshaus believes in the rights of the states to control and regulate water and air pollution, solid waste disposal, and radioactivity and he also felt that there would be some administrative changes taken in regard to radioactivity.

A memo listing the sources delinquent as of January 22, 1971, on order or stipulation schedules was then presented.

Mr. Badalich presented a memorandum on sewage disposal facilities for watercraft and commercial vessels at ports on the north shore of Lake Superior and discussed this with the members.

Mr. Badalich then discussed the authority to set up a rule making hearing to issue the proper certificates to those industries and other dischargers not now covered under existing Water Pollution Control Commission and MPCA permits as required under the Federal Water Quality Improvement Act of 1970, Public Law 91-224.

Following discussion, Mr. Tuveson moved that the Executive Director be authorized to hold public hearings on procedural rules for permits pursuant to the Water Quality Improvement Act. Mr. Luick seconded the motion and it was carried unanimously.

## Proposed Standards of Quality and Purity Applicable to the Open Waters of Lake Superior.

Mr. Badalich announced that a hearing was scheduled for WPC 33 to be held in Duluth on February 17, 1971, in Pulucci Hall in the Duluth Auditorium.

## ADJOURNMENT

There being no further business to come before the Agency, the Chairman declared the meeting adjourned at 5:45 p.m. with the next Agency meeting to be held on March 8, 1971, at 9:00 a.m.

John P. Badalich, P.E.
Executive Secretary and
Chief Executive Officer

Approved March 8, 1971

Elaine N. [illegible]
Recording Secretary

STATE OF MINNESOTA
COUNTY OF LAKE

DISTRICT COURT
SIXTH JUDICIAL DISTRICT

Reserve Mining Company,

Appellant,

vs.

Minnesota Pollution Control Agency,

Respondent.

FINDINGS OF FACT
CONCLUSIONS OF LAW
and
ORDER FOR JUDGMENT

The above-entitled action was instituted pursuant to the provisions of the Minnesota Water Control Act, Minnesota Statutes Section 115.05, as an Appeal by Appellant from the adoption by the State of Minnesota of Regulation WPC 15, filed with the Secretary of State and Department of Administration on June 30, 1969 and approved by the U. S. Secretary of the Interior on November 26, 1969. The Appeal alleges (1) that the requisite statutory procedure for the adoption of WPC 15 has not been complied with and that, therefore, said regulation is not applicable or enforceable against Appellant Reserve Mining Company, (2) that Subd. (a)(4) and (c)(6) of WPC 15 are illegal, unreasonable, arbitrary and invalid as applied to Appellant, (3) that Subd. (a)(4) and (c)(6) of WPC 15 are not applicable to Appellant, and (4) that if said Subd. (a)(4) and (c)(6) are binding and applicable to Appellant, that in that event, Respondent should be ordered to issue a Variance pursuant to Subd. (a)(5) of the Regulations, because enforcement thereof would cause undue hardship and strict conformity would be unreasonable, impractical or not feasible under the circumstances.

Respondent in its Return denies generally the allegations of the Appeal, alleging various affirmative defenses which have been adjudicated by subsequent Orders of this Court and are therefore moot. Respondent in its Return counterclaimed against Appellant, claiming that Appellant is presently, and has been in the past, polluting Lake Superior in violation of Minnesota Statutes Chapter 115 and Regulation WPC 15, thereby creating a public nuisance, and prays for an Order of the Court setting a reasonable and just time schedule for compliance by Appellant and a permanent injunction thereafter. Prior to the trial of the cause on the merits, various Motions were made [illegible] Hearings were held thereon before the Court, and the Court [illegible] Orders with regard thereto. On February [illegible] January 28, 1970, the Court issued its Order [illegible] Respondent's Motion for a Change of Venue from Lake County [illegible] the trial of this action by the Court, without [illegible] the May, 1970 General Term of Court, and directing the Respondent to forthwith serve its required Pleading. The Court, on April 6, 1970, after Hearing held on February 25, 1970, issued its Order denying Respondent's Motion to dismiss the Appeal on the alleged grounds that the Notice of Appeal failed to state a claim upon which relief can be granted and that the Court lacked jurisdiction over the subject matter because the Appellant failed to comply with the requirements of Minnesota Statutes 115.05, Subd. 3 with respect to the time for service of its Notice of Appeal. On the Motion of Appellant, after Hearing held on April 22, 1970, the Court, on April 30, 1970, issued its Order restraining and enjoining the Respondent and the Minnesota Commissioner of Conservation

> "from holding the hearings or conducting any proceedings contemplated by the 'Notice of Commencement of Contested Case (Case No. W70-1)--In the Matter of the Revocation of Permit No. 112, Reserve Mining Company, Inc.' and 'Notice of Commencement of Contested Case--In the Matter of the Revocation of Permit No. 47-12 (796), Reserve Mining Company, Inc.' insofar as said proceedings are premised upon and allege violation of Minnesota Administrative Regulation WPC 15 or otherwise seek to determine the issues within this Court's jurisdiction raised by the Notice of Appeal, Return and Counterclaim until a determination is made by this Court after trial with respect to said issues."

After hearing held on April 22, 1970, the Court issued its Order dated May 14, 1970, directing that the trial of this action commence on June 22, 1970, in the Lake County Court House at Two Harbors, Minnesota, and requesting that the parties and the respective counsel cooperate so as to complete any necessary pretrial proceedings prior to that date. At each of the above-mentioned hearings, Jerome D. Truhn, Esq., Assistant Attorney General of the State of Minnesota, appeared for the Respondent, and Edward T. Fride, Esq. of Sullivan, Hanft, Hastings, Fride & O'Brien, appeared for the Appellant. At the above-mentioned hearing on April 22, 1970, Donn D. Christensen, Esq. appeared on behalf of the Minnesota Department of Conservation.

Trial of this action upon the issues raised by the Notice of Appeal and Return and Counterclaim commenced before the Court on June 22, 1970 and continued through August 5, 1970. Appellant appeared at the trial by its counsel, Edward T. Fride, of Sullivan, Hanft, Hastings, Fride & O'Brien. Respondent appeared at the trial by its counsel, Jerome D. Truhn, Esq. and Lane Fridell, Esq., Assistant Attorney Generals of the State of Minnesota.

The Court of its own Motion and upon agreement of the parties received additional evidence, and the issues of fact were tried de novo.

The Court, on August 5, 1970, took the matter under advisement. Thereafter, briefs on the facts and law were submitted by the parties, and oral arguments were heard on October 2, 1970, Edward T. Fride, Esq. again appearing for the Appellant, and Jerome D. Truhn, Esq. and Lane Fridell, Esq. appearing for the Respondent.

The Court, having heard and given due consideration to all of the evidence, the arguments of counsel, and given proper regard to the prima facie reasonableness and validity to be accorded to the Respondent's actions, all the files, records and proceedings herein, and being fully advised in the premises, now makes the following Findings of Fact, Conclusions of Law, and Order for Judgment:

## FINDINGS OF FACT

1. Appellant, Reserve Mining Company, is a Minnesota taconite mining and beneficiating company. In connection with its operations, Appellant discharges industrial waste, called tailings, into Lake Superior at Silver Bay, Lake County, Minnesota, pursuant to Permits issued by the Corps of Engineers (United States Department of the Army), the Minnesota Department of Conservation, and the Minnesota Water Pollution Control Commission.

2. The Respondent, Minnesota Pollution Control Agency, is an agency of the State of Minnesota created by Minnesota Laws 1967, Chapter 882 (codified as Minnesota Statutes, Chapter 116), as the successor of the Minnesota Water Pollution Control Commission. The Minnesota Water Pollution Control Commission was created by Minnesota Laws 1945, Chapter 395 (codified in 1961 as Minnesota Statutes, Chapter 115).

3. The Permits of the Minnesota Water Pollution Control Commission and the Minnesota Department of Conservation were issued to Reserve on December 16 and December 18, 1947, respectively, after several joint public hearings were conducted by the two State agencies commencing June 5, 1947, and ending November 4, 1947. During this period prior to the issuance of the Permits, extensive testimony was taken and extensive studies and investigations made by both State and Federal Agencies as well as Appellant as to the anticipated effect of the proposed discharge upon Lake Superior. The matter of the violation and/or termination of those Permits is not a direct issue in this action, but are necessarily proper evidence of facts to be considered by the Court in the final determination herein.

4. The Permit issued by the Minnesota Department of Conservation relates to the appropriation or use of the waters of Lake Superior. The Minnesota Water Pollution Control Commission Permit authorizes the discharge of industrial waste (tailings) into Lake Superior. Both Permits were duly issued in accordance with law. The

latter Permit was issued under and pursuant to Minnesota Statutes 115.03, Subd. 1. In April, 1948, after the issuance of the State Permits, the Corps of Engineers issued its Permit to Reserve Mining Company authorizing the construction of docks, breakwaters, and the deposition of tailings into Lake Superior.

5. The terms and conditions of the State Permits are essentially identical. Subd. (i) of each Permit provides that "the Permit shall be for a term extending without limitation until the Permittee shall surrender the same, or until revocation as hereinafter provided. * * *" In light of the substantial investment to be made by Reserve Mining Company upon issuance of the Permits and to provide Reserve Mining Company with legal protection against unilateral modification, revocation, or termination of the Permits, Subd. (1) of each Permit was issued providing:

> "The Permit shall be subject to revocation only for violation of the conditions hereinbefore set forth. Before any such revocation the Water Pollution Control Commission (or the Commissioner of Conservation) or its successor in authority shall hold a public hearing upon charges specifying the alleged violation, of which at least 30 days' notice in writing shall be given to the permittee, and if such violation can be corrected the permittee shall be given a reasonable opportunity to correct the same."

Each Permit specifies a 9 square mile "zone of discharge," which is the area within which the tailings are to enter the Lake, it having been expected and intended that the tailings would be carried down into the depths of the great trough (600 to 900 feet deep) in Lake Superior extending for several miles outside the "zone of discharge." The only relevant conditions of the Permits for purposes of this Appeal are those contained in Subdivisions (b) and (d). These read as follows:

> "(b) The tailings discharged from said taconite beneficiation plant shall consist only of the crushed or ground residue of taconite as hereinbefore described after extraction of iron ore therefrom, with the water in which such residue is suspended, and neither such tailings nor the water returned from the power plant shall include any material quantities or matter soluble

> in water, organic matter, oil, sewage, or other waste except such taconite residue."
>
> * * * *
>
> "(d) Such tailings shall not be discharged so as to result in any material clouding or discoloration of the water at the surface outside of said zone except during such time as turbidity from natural conditions in the adjacent portions of the lake outside of said zone may be caused by storms, nor shall any material adverse effects on fish life or public water supplies or in any other material unlawful pollution of the waters of the lake or in any material interference with navigation or in any public nuisance outside of said zone."

6. In 1956, and again in 1960, upon application of Reserve Mining Company, the Minnesota Water Pollution Control Commission and Minnesota Department of Conservation amended their respective Permits. Both the 1956 and 1960 amendments increased the amount of water which could be appropriated from and the amount of waste water and tailings which could be discharged into Lake Superior by Reserve. Neither the 1956 nor the 1960 amendments altered the above-quoted conditions of the Permits. The Federal Permit has also been expanded by various amendments since its original issuance. As in the case of the original Permits, the amendments of the State Permits in 1956 and 1960 were adopted after extensive public hearings on the questions of reasonableness of the discharge and any possible effects on Lake Superior.

7. In reliance upon the State and Federal Permits, as contemplated by the Appellant and the agencies issuing the Permits prior to such issuance, the Appellant constructed its plant at Silver Bay, Minnesota. The Appellant also developed the Villages of Babbitt and Silver Bay and their schools and other necessary facilities where many of the Appellant's employees live with their families, as do the merchants, doctors, teachers, and so forth who serve them. The Appellant's capital investment exceeds $350,000,000. As of June 30, 1970, Appellant had 3,367 employees. During the

calendar year 1969, its total payroll was approximately $31,700,000; and it expended the sum of $27,400,000 for the purchase of supplies, and paid State and local taxes amounting to $4,250,000. The Appellant's annual production of 10,000,000 tons of taconite pellets represents approximately two-thirds of the required pellets used by Armco and Republic Steel, the sole owners of Reserve, 15% of the production of the Great Lakes area, and about 12% of the total production of the United States. Between four and six people are supported by each job in the mining industry, including those directly involved in the mining industry and those employed in directly and indirectly related fields.

8. The principal reasons for the location of Appellant's plant at Silver Bay rather than the mine site near Babbitt were the lack of necessary water, the lack of an appropriate area for tailings disposition at the mine site, and other economic factors.

9. Theconcept upon which the State and Federal Permits were sought by and issued to Appellant was the concept that the tailings effluent discharged into Lake Superior would form a so-called heavy density current providing efficient transportation of the tailings into the depths of the great trough in Lake Superior. This phenomenon involves the formation of a current by the presence of tailings in the discharge water which renders it heavier than the surrounding waters of Lake Superior. The strength of the heavy density current and the velocity with which it settles to the bottom hinges on the relative densities of the discharge effluent and the surrounding waters of the Lake. The greater the content or concentration of tailings in the discharge water, the more dense the discharge water and the stronger the density current and the more efficiently and effectively it will transport the tailings into the depths of Lake Superior.

10. Reserve Mining Company is and has been discharging, since the last amendments to the Permits, approximately 67,000 tons

per day of its industrial waste, comprised principally of taconite tailings (crushed rock residue from its taconite ore beneficiation process) suspended in 600,000,000 gallons of water per day at a concentration of approximately 28,000 mg/l. Approximately one-half of these suspended solids are deposited on the delta formed off-shore thereby, and the balance into the waters of Lake Superior off the edges of the delta at a concentration of approximately 14,000 mg/l. The delta as it now exists has become part of the shore and as such is not now a part of Lake Superior. This present discharge is obviously greatly in excess of the 30 mg/l limit of suspended solids and the turbidity limit of 25 mg/l contained in WPC 15. If the concentration of tailings in the Appellant's discharge were reduced to comply with such limitations, the formation of the heavy density current transporting the tailings to the bottom of the Lake would be precluded, resulting in the dispersion and mixing of the tailings in the surface water of the Lake before the tailings would eventually, if ever, settle. The effect of the application of Section (c)(6) of WPC 15 to the Appellant's discharge would be to prohibit such discharge.

11. The evidence, including a tailings inventory, establishes the fact that after 15 years of operation and discharge by Appellant, Appellant's discharge does form a strong heavy density current transporting the tailings into the depths of Lake Superior and depositing approximately 90% of them in the great trough; that the heavy density current is the predominant current in connection with the Appellant's discharge; that lake and surface currents as well as the claimed phenomenon of "upwelling" have some significance as far as the distribution of tailings on the Lake bottom is concerned; and that a substantial portion of fine material that may escape the heavy density current, particularly during periods of thermocline, probably settles out on the Lake bottom after a period of time.

12. Construction of the Appellant's plant was completed

and operations commenced in 1955. Prior to that time, extensive studies and investigations of Lake Superior were made by the Minnesota Department of Health and Minnesota Department of Conservation to establish the conditions existing in the Lake prior to the commencement of operations as an aid in determining any possible effect of the discharge on the Lake after the commencement of operations. Since the commencement of operations, the Appellant's discharge of tailings has been subject to extensive surveillance and monitoring by State Agencies, including the Minnesota Water Pollution Control Commission, the Minnesota Pollution Control Agency, the Minnesota Department of Conservation, and the Minnesota Department of Health, and by the Appellant, and numerous studies and reports concerning the discharge and its possible effect on Lake Superior have been made by the agencies and Appellant.

13. In 1965, the Federal Water Pollution Control Act was amended by the addition of the provisions of 33 USCA, Section 466g(c)(1), and other provisions, providing for the promulgation and adoption, after public hearings, of Federal-State Interstate Water Quality Standards. On or about February 21, 1966, then Governor Karl Rolvaag filed on behalf of the State of Minnesota a letter of intent to comply with the Federal Act by the adoption of Interstate Water Quality Standards.

14. Since the enactment of Minnesota Laws 1945, Chapter 395, Section 3, codified in Minnesota Statutes 115.03, Subd. 1, Minnesota Statutes have contained a provision authorizing the adoption of "reasonable pollution standards" by the Respondent and its predecessor. By the enactment of Minnesota Laws 1963, Chapter 874, codified in Minnesota Statutes Sections 115.42 et seq., procedures and additional guide lines for the adoption of standards were established. By enactment of Minnesota Laws 1967, Chapter 882, Section 7 (codified in Minnesota Statutes 116.07, Subd. 6) certain guide lines were further established and reiterated. The procedures established in-

clude "public hearings upon due notice" prior to the adoption of standards, which procedures have been substantially complied with by Respondent.

15. On or about May 8, 1967, the Minnesota Water Pollution Control Commission, after public hearings conducted during 1966 and 1967, adopted its version of WPC 15. This version contained neither Section (c)(6) nor the anti-degradation clause of (a)(4) of the Respondent's version of WPC 15 hereinafter referred to. The Commission's version of WPC 15 was submitted to the Secretary of the Interior for approval under the Provisions of 33 USCA, Section 466g(c)(1) and on or about August 7, 1967, the Secretary of the Interior refused to approve such version. Thereafter, the Minnesota Water Pollution Control Commission was succeeded by, and its functions transferred to, the Respondent as provided in Minnesota Statutes Section 116.02, Subd. 5.

16. The period following the Secretary of the Interior's refusal to approve the Minnesota Water Pollution Control Commission's version of WPC 15 was a period of negotiations by and between the Department of the Interior and the Respondent during which the Department of the Interior urged the Respondent to include so-called effluent standards, in effect proscribing limitations on a discharge or effluent itself regardless of any effect on the receiving waters, and an anti-degradation clause in its version of WPC 15. On or about April 8, 1969, the Respondent tentatively adopted its version of WPC 15, including Section (c)(6), constituting an effluent standard, and the anti-degradation clause of (a)(4), subject to the approval of the Secretary of the Interior. Thereafter, following a period of continued negotiations between the Respondent and the Department of the Interior relative to the provisions of WPC 15, the Secretary of the Interior on November 26, 1969, approved the Respondent's version of WPC 15.

17. On December 24, 1969, Appellant's Notice of Appeal

herein was duly served upon the Respondent and was thereafter filed with the Clerk of the above-named Court, all as required by law. On February 13, 1970, the Respondent filed its Return, Affirmative Defenses, and Counterclaim. The Counterclaim alleges, among other things, that Appellant is "polluting Lake Superior in violation of Minnesota Statutes Chapter 115."

18. Minnesota Regulation WPC 15 as approved by the Secretary of the Interior on November 26, 1969, constitutes a final order, rule, regulation or other final decision of the Respondent.

19. Appellant is a person who is or may be adversely affected by Minnesota Regulation WPC 15, or portions thereof, within the meaning of Minnesota Statutes Chapter 115.

20. The County of Lake, State of Minnesota, is the County in which the premises affected by such final order, rule, regulation, or other final decision are situated.

21. The District Court, County of Lake, Sixth Judicial District, State of Minnesota, has proper venue of the action herein.

22. This Court has jurisdiction of the parties hereto and jurisdiction of the subject matter hereof.

23. The Notice of Appeal and Counterclaim herein state claims against each other upon which relief can be granted.

24. The direct issue of the purported compliance or violation of the Permits is not before this Court in this action. Hearings on proceedings contemplated by the two "Notice of Commencement of Contested Case" referred to on page 2 of these Findings are separate and distinct procedures which were enjoined by this Court until this action has been completed by its Order of April 30, 1970. This fact does not preclude this Court from considering the terms, circumstances, and effects of the granting of said Permits as material and relative evidence in the final determination of the respective merits of Appellant's claims and Respondent's counterclaim herein.

25. The promulgation and adoption of Regulation WPC 15,

in and of itself, is not a constitutional violation of due process. Immediate application and enforcement thereof against Reserve Mining Company without granting that company a reasonable opportunity to adjust and modify its mode of operation would amount to a constitutional violation and a "taking of property without due process of law."

26. Appellant's discharge of taconite tailings into Lake Superior is not a "disposal system or treatment works" within the meaning of Section (a)(1) of WPC 15 or M.S. Chapter 115, and is, therefore, not exempt from the provisions of WPC 15 on that ground.

27. Respondent has the authority and the obligation, if justified, to apply the "Variance From Standards" as set forth in WPC 15 (a)(5), and Appellant has, by the allegations in its Appeal and Prayer for Relief, in effect made application to this Court for relief in the form of a Variance.

28. After 15 years of operations and discharge of tailings into Lake Superior by the Appellant, the evidence before the Court establishes that said discharge has had no measurable adverse or deleterious effects upon the water quality or use of Lake Superior insofar as its drinking water quality, any conditions affecting public health, affecting fish life or the reproduction thereof, or any interference with navigation.

29. Appellant's discharge of tailings into Lake Superior has had a measurable effect upon Lake Superior and the use thereof in regard to:

(1) The aesthetic enjoyment of the Lake by the increase of the "green water phenomenon" both within and without the zone of discharge as described in the Permits.

(2) A decrease in the presence of Pontoporeia, commonly known as scud, in the vicinity of the zone of discharge. This fish food used primarily by smelt has had only a minimal and immaterial effect on the fish population of the Lake.

30. A small percentage of the tailings discharge in the form of fine particles of four microns or less have escaped the heavy density current and have been dispersed to other parts of the Western Arm of Lake Superior. The eventual settling rate of these fine particles has not been established convincingly by the evidence.

31. Subd. (a)(4) of WPC 15 is not applicable to, nor enforceable against, Appellant. Respondent concedes in its Reply Brief on page 74 that this so-called anti-degradation clause applies only to dischargers which are new or expanded after the date of its adoption by the State, June 30, 1969. This concession is pursuant to M.S. 115.42, which states as follows: "It is the purpose of Laws 1963, Chapter 874 to safeguard the waters of the State from Pollution by: (a) preventing any new pollution; . . ."

32. The immediate application or enforcement of WPC 15, Subd. (c)(6) against Appellant would be unreasonable, arbitrary, and capricious, and requires the granting of a Variance excusing Appellant from conformity thereto until the further Order of this Court, pursuant to subsequent modifications in the discharge process hereinafter referred to.

33. Minnesota Statute 115.01, Subd. 5, includes in its definition of pollution contamination which is either actual or potential. The Court's Findings and Order relating to "actual pollution" are set forth herein. With respect to possible future "potential contamination," the evidence is in such conflict that the Court would have to indulge in speculation in order to make a finding as to such future possibility. The Court is precluded under law from indulging in such speculation.

34. Lake Superior is now an oligatrophic body of water and enjoys the distinction of being one of the lakes with the highest quality of water in this hemisphere. This fact was conceded by the testimony of both parties. Neither is there any dispute of the fact that any material deterioration or depreciation of the present water

quality cannot be tolerated. And so, even though there has been no substantial or convincing evidence of deterioration to date, the Court cannot disregard the numerous scientific opinions expressed to the effect that the present method of discharge constitutes a possible or potential source of pollution which, if continued over a long period of time, might result in the material deterioration of the water quality of Lake Superior.

35. In view thereof, the Court finds that the continuance of the present method of discharge for any substantial period of time, and particularly for the next forty-year expected life span of Reserve's operations, is intolerable and that substantial modifications must be put into effect. The Court makes no Findings of the nature or extent of such modification in the method of discharge because of the lack of any substantial or determinative evidence relative thereto and the natural limitations of the Court's ability to so determine.

36. Pursuant thereto, adoption of such modified methods of discharge require the immediate attention of Reserve Mining Company and negotiations and study by Reserve's and Respondent's agencies, with a reasonable time to arrive at a mutually-acceptable plan between Reserve and the Minnesota Pollution Control Agency; that to insure the establishment of such a mutually-agreeable modification and to prevent a stalemate in such negotiation, it is necessary that the Court retain jurisdiction of this matter.

And when such modified methods of discharge have been put into operation, the gravity of the ecological concern dictates that a constant and diligent monitoring and scrutiny of the water quality of the Lake must be maintained by both Appellant and Respondent by the use of the most sophisticated scientific methods of testing.

## CONCLUSIONS OF LAW

1. The requisite statutory procedure for the adoption of WPC 15 has been complied with, and said Regulation per se is applicable against Appellant Reserve Mining Company.

2. Regulation WPC 15, Subd. (a)(4) is not applicable or enforceable against Appellant Reserve Mining Company.

3. Regulation WPC 15 (c)(6) is unreasonable, arbitrary, and invalid as applied to Appellant Reserve Mining, and Minnesota Pollution Control Agency shall grant a Variance From Standards as to said Section (c)(6) until the further Order of this Court.

4. No conclusion is drawn as to whether or not Reserve Mining Company is polluting Lake Superior. Instead, the Court concludes that the present method of discharge of tailings from its plant at Silver Bay, Minnesota shall be altered and modified by Appellant Reserve Mining Company to the extent that the disposition of fine tailings into Lake Superior and the distribution thereof into areas outside of the so-called "great trough" is discontinued.

5. Pursuant thereto, Appellant Reserve Mining Company shall submit to Minnesota Pollution Control Agency on or before May 15, 1971, for its approval, such plans for modification as are necessary to accomplish the result set forth in paragraph 4 above. After such approval by Minnesota Pollution Control Agency, Reserve shall have two additional years in which to build, install, and put into operation such approved modified method of tailings discharge.

6. The District Court shall retain jurisdiction of this matter for the purpose of insuring the implementation and good-faith negotiations towards a satisfactory modification of discharge and a reasonable and equitable solution of this controversy. To that end, this Court, upon application of either party, shall exercise its authority to take further evidence, if necessary, and to render a final decision therein in the event that no mutual agreement as to such modification can be reached between the parties.

7. The attached Memorandum is hereby made a part of these Findings of Fact and Conclusions of Law.

LET JUDGMENT BE ENTERED ACCORDINGLY, but let the Entry of Judgment be stayed for a period of 30 days from the date hereof.

Dated at Duluth, Minnesota, this ____ day of December, 1970.

By the Court,

/s/C. L. Eckman

C. L. Eckman, Judge thereof

## MEMORANDUM

This Court in its Memorandum in this matter dated April 30, 1970 in connection with its Order granting a temporary injunction stated the following:

> "This Court feels that the time has come to brush aside all legal technicalities and procedures that may impede a resolution of these questions without further delay by taking the problem out of the public and political arena into the court for a full and comprehensive judicial review, where the interests of both the public and industry can be fully explored and protected."

The Court had confidently expected that before trial, the parties would, by putting their scientific heads together, negotiate and agree on some mutually-acceptable modification of Reserve's discharge process. This was not done. The hope still existed that after the commencement of the Trial and both parties had fully disclosed their positions, a compromise and settlement would be accomplished. Not long after the Trial began, however, it became apparent to the Court that a strictly adversary atmosphere prevailed between the parties, which intensified as the parade of witnesses (14 by Reserve and 15 by Respondent) and voluminous exhibits (185 by Reserve and 100 by Respondent) were presented and heard. Instead of the Court being an instrument of compromise, negotiation, and settlement, both parties assumed an adamant position demanding, on the one hand, the stamp of approval on Reserve's operation for 40 more years, and on the other hand, a decision that would in effect have closed down Reserve Mining Company's operation.

Probably no other trial in the history of this State has produced a more impressive array of scientists and experts expounding on their particular fields of expertise. With few exceptions, each had degrees showing years of education, series of publications and memberships on national and international committees and government commissions, together with years of experience in their respective fields of ecology and limnology (including chemistry, bacteriology, biology, etc.), sociology, economics, and cost accounting.

In view of this profound assistance, it would appear that the Court should have had little difficulty in arriving at a logical and determinative solution. Unfortunately, however, this was not so. Contradictions in findings and opinions in varying degrees became the rule. Appellant reminded the Court by inference that Respondent's witnesses were brought into the case as "Johnny-Come-Latelys" to render opinions based on other scientists' disqualified tests and conclusions and were propounded by pressure exerted by governmental superiors. Respondent inferred that Appellant's experts testified and reached conclusions expected of them as paid employees of Reserve. In weighing the credibility of these witnesses by the usual standard, the Court finds no merit in these accusations except insofar as their testimony may have been unconsciously influenced by their apparent positions of advocacy. Certainly, it must be made crystal clear that in no instance did the Court find any indication of prostitution of themselves or their professions by any of the witnesses.

Through all this maze of conflicting testimony and evidence, the Court still had only a few clear-cut and well-defined issues to determine. In substance, there were three:

(1) Is WPC 15, Subd. (a)(4), commonly known as the anti-degradation clause, unreasonable, arbitrary, and capricious as applied to Reserve?

(2) Is WPC 15, Subd. (c)(6), commonly known as the effluent standard, unreasonable, arbitrary, and capricious as applied to Reserve?

(3) Is Reserve guilty of polluting Lake Superior by its present discharge of tailings, and thereby the proper subject of injunction?

A determination of these main issues necessarily involved consideration of a number of collateral issues, including:

(1) The relevancy and application of the Permits granted in 1947 and extensions thereof.

(2) The economic feasibility or the balancing of the

economic impact upon Reserve and the communities involved as against the ecological future of Lake Superior.

(3) The procedural positions of the parties as to burden of proof relative to the Findings and Regulations of an administrative body, and

(4) The applicability as a whole of Regulation WPC 15 per se in regard to its constitutionality and regularity in adoption, as applied to Reserve.

A consideration of the above correlative issues should be discussed before the three main issues:

(1) Relevancy and Application of the Permits.

The position of Respondent that the Court is estopped from considering the language, circumstances, and effects of the Permits in its determination of this lawsuit is untenable. The Permits were received into evidence as material and relevant. A consideration of these were vital as to the present position of the parties, the history of the operation under the Permits and the language thereof, particularly as they relate to the alleged unreasonableness of WPC 15 (c)(6). Furthermore, the main thrust of both Appellant's and Respondent's presentations revolved around the language and parameters of the Permit, particularly as to the word "material" -- material discoloration, material adverse effects, material unlawful pollution, material interference with navigation, and finally, no material quantities of matter soluble in water, organic matter, oil, sewage, or other waste. Also, the extent of discoloration, turbidity, and fine tailings dispersion set forth in the Permits was necessarily involved.

(2) Balancing of Ecological and Economic Factors.

It seems highly unlikely that a similar application by Reserve today for the Permit issued in 1947 would be granted. The public, in only a few short years, has been alerted and alarmed over the disastrous effects upon our environment from what appears to have been a careless and callous disregard in the past of our ecological future. A dedication and concern in this matter must continue. This does not mean that our economic well-being must be sacrificed on the altar of emotionalism in order to maintain our environment. There is no reason why intelligent and fair-minded men cannot by their expertise relate and each be responsive to the other. There is no place in our society today for extremists in this matter of concern. Neither a greedy industry that knowingly, willfully, and callously pollutes our environment for profit, nor the emotional purists who would denounce any practical use of our resources for fear it may pollute, can be tolerated. We must assume that if man is to continue to live on earth, he must use the natural resources the Creator provided for his sustenance and enjoyment, and so must he use the natural resources wisely and in such a manner that they are preserved and not wasted.

This fact of life was recognized by the grantors of the Permit to Reserve when they repeatedly required only a material compliance to insure continued high water quality of Lake Superior. So also was it recognized by the framers of WPC 15, which is replete with language which amounts to "escape hatches," such as "in order to conform to public interest" -- "necessary economic or social development" -- and as in Subd. (a)(5) Variance From Standards, where it says "where strict enforcement would cause undue hardship." Mr. Badalich summed it up when he testified, "M.W.P.C. has no desire to close down Reserve." Obviously, any decision which would result in that would be disastrous to the entire economy of Northeastern Minnesota. And on the other hand, it is just as obvious that con-convincing evidence of the pollution of Lake Superior by Reserve would demand that that price be paid, if necessary, or unless the pollution cannot be stopped. The burden of striking this balance is great. This Court is convinced that its Conclusions are justified.

### (3) Procedural Positions of the Parties.

The claim of Appellant that Respondent should be estopped from proving pollution by reason of the Permits and no determination as to their violation having been made has no merit. To hold otherwise would necessarily result in the dismissal of Respondent's Counterclaim.

Respondent has the burden of proving by a fair preponderance of the evidence its allegations of pollution by Reserve. Respondent contends that the Findings and Conclusions confirming WPC 15, following Hearings on March 9, 1970, April 13, 1970, May 11, 1970, June 8, 1970, and June 19, 1970, pursuant to M.S. 115.05, as amended, are entitled to full faith and credit as prima facie evidence. The Court, on the authority of Minneapolis Van and Warehouse Co. vs. St. Paul Terminal Warehouse Co., 180 N.W. (2nd) 175, denies this contention. Significant also are the circumstances and timing of these Hearings. They were evidently held to comply with M.S. 115.05, the last being conducted only two days before the start of this Trial and while both parties were engaged in last-minute preparations.

(4) The Constitutionality of WPC 15.

No further comment on the Court's Findings and Conclusions herein should be necessary as they are self-explanatory.

## MAIN ISSUES

1. Reasonableness of WPC 15 (a)(4).

The non-applicability of this section to Reserve is conceded by Respondent. It is recognized that it does not apply to any discharges existing on June 30, 1969.

2. Reasonableness of WPC 15 (c)(6).

Limiting the concentration of the discharge effluent to 30 ml/l would necessarily require either (1) the dilution of the effluent by the addition of millions of gallons of water or (2) complete cessation of discharge into the Lake. Dilution to the required degree would mean:

(a) Abandonment of the principle of the heavy density current and the diffusion of all the tailings into the surface waters and dispersion to all parts of the Lake, and

(b) No reduction in total amount or composition of the effluent from what it is today and thereby have no remedial effect on any alleged pollution.

With that in mind, it would appear that if complete cessation represents the only possible compliance with this regulation, it is capricious and unreasonable and should not be enforced against Reserve.

3. Counterclaim -- Pollution of Lake Superior.

The word "pollution" is subject to varied definitions, depending upon the intent and position of the definer. Under the dictionary definition -- "an act of making or rendering unclean" -- any human contact at all could be considered pollution. Robert S. Burd, Respondent's witness and Deputy Assistant Commissioner for Operations of Federal Water Quality Administration, defined pollution as follows: "Anything that lowers the natural or existing quality of water." These definitions, being of such a general nature, were of no assistance. Dr. Charles Wurtz, Appellant's witness, Professor of Biology at LaSalle College and former member of the Academy of Natural Sciences, defined pollution as "a product of legislation." It was, therefore, necessary to resort to the statute for its definition. M.S. 115.01, Subd. 5, defines pollution as follows: "Pollution means the contamination of any waters of the State so as to create a nuisance or render such waters unclean, or noxious, or impure so as to be actually or potentially harmful or detrimental or injurious to public health, safety or welfare, to domestic, commercial, industrial or recreational use, or to livestock, wild animals, birds, fish or other aquatic life." In applying this statutory definition to the voluminous evidence, both oral and documentary, the Court concludes that there was lacking the required substantial evidence by Respondent to convince this Court that the discharge of tailings by Appellant, after 15 years of operation, had "rendered the waters unclean or noxious or impure thereby." The only exception of convincing quality was the increased display of the "green water phenomenon" and the disappearance of a proportion of the scud, a small shell creature which serves as a food for smelt and small trout. Although measurable, these conditions were of minimal significance or materiality.

The question of potential harm to the lake water then became the greatest concern of the Court. This facet also became the main thrust of Respondent's attack. Respondent's experts, while admitting there had been no measurable deterioration of water quality to date, maintained that the chemical and bacterial content of the tailings were of such significance that they would result in eutrophication by nutrient feeding of algae, and paradoxically, the reduction of algae in the zone of discharge as a limiting factor. They opined, therefore, that the tailings had or would have a pollutant effect on the Lake. These findings and opinions were denied by Appellant's experts.

And so the Court, completely lacking in personal expertise, found itself in the impossible position of being required to analyze, weigh, and choose between these controversial points of view. There was scant consolation to the Court in the remark of Dr. Donald Mount who, evidently recognizing the Court's dilemma, stated while testifying, "The Court has my sympathy." In view of the absence of definitive measurements of pollution in quantity or time, with consideration to the assimilative capacity of Lake Superior, the Court would be indulging in speculation to make a determination that the discharge was or was not a potential source of pollution to Lake Superior.

Nevertheless, the vital importance of maintaining the Lake in its present oligatrophic state demands that definitive steps be taken to remedy any condition that may possibly be a source of even potential irremedial damage. It is in fact a socio-legal problem and is entitled to those remedies. And so, in view of the refusal or inability of the parties to negotiate, compromise, or agree on even temporary solutions, the Court has concluded that Reserve Mining Company's present method of discharge must not be allowed to continue as it has over the next 40 years -- and neither must Respondent be given the instrument that would in effect require prohibitive compliance. The Court's continuing jurisdiction is essential to insure the establishment of a modified method of discharge by good-faith cooperative discussions between the parties.

The type and extent of Reserve's modifications are not for the Court to dictate at this time. The minimum efforts in that regard are set forth in some limited detail in Appellant's Exhibit 67 entitled "Engineering Task Force Report," and will require Reserve to assume the burden of expending millions of dollars in capital outlay and expense of operation. The public is entitled to this. In the judgment of this Court, any modification must insure the flocculation of the fine tailings and the deposit of all the tailings by conduit to the floor of the great trough, where they will remain, eliminating thereby their dispersion to other parts of Lake Superior, and elimination of complaints of aesthetic loss, net or shore slime, drinking water contamination, or eutrophication by increased algal growth. In support of this solution, the Court has gleaned from the Respondent's experts that the deposit of the tailings on the Lake floor in a relatively quiescent condition would substantially remove their apprehensions as to their effect upon the Lake's ecology, aesthetics, or navigation. Dr. Mount stated that the physical filling was a small factor. Dr. Thomas suggested that ultra-fine materials be treated. Mr. Badalich suggested the use of mechanical means, such as flocculation. Dr. Risley stressed the bad effect on the Lake by small particulate spreading. And Dr. Shapiro was of the opinion that greater concentration of tailings would tend to inhibit or produce die-off in algal growth.

This has been a difficult decision. The Court recognizes that it probably will not please both parties to this lawsuit nor all segments of the public. But it is satisfied that it is a step in the right direction. The Court urges a continued monitoring of the discharge and a diligent pursuit of more sophisticated testing devices. The eventual modification, as approved by the Court, will not necessarily be a final and conclusive resolution of the matter. If and when such future scientific tests reveal definitive, concrete, and substantial data that establishes that any discharge of tailings into Lake Superior is polluting that Lake, remedial action should be instituted by the available procedural steps.

05011

STATE OF MINNESOTA DISTRICT COURT

COUNTY OF LAKE SIXTH JUDICIAL DISTRICT

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Reserve Mining Company,

Appellant,

vs. ORDER

Minnesota Pollution
Control Agency,

Respondent.

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The above-entitled matter came before the Court on April 6, 1971 in the Court House, Duluth, St. Louis County, Minnesota, for hearing on a motion by the Appellant for the Court to render a final decision, pursuant to its Findings of Fact, Conclusions of Law, and Order for Judgment entered on December 15, 1970. Said motion was based upon the refusal or failure of Respondent to engage in good-faith negotiations leading towards a satisfactory modification of Appellant's discharge and a reasonable and equitable solution of the controversy between the parties in accordance with the Court's directive. Said motion was based upon all the files, records, and proceedings herein, together with affidavit of Edward T. Fride and the depositions of Grant Merritt, Executive Director of Respondent, and Lovell Richie, Assistant Director of Respondent's Division of Water Quality. Appearing for the Appellant in support of said motion was Edward T. Fride, its attorney, and appearing on behalf of Respondent in opposition to said motion were John M. Mason, Solicitor General, and Lane Fridell, Special Assistant Attorney General, its attorneys.

The Court having heard and considered the files and proceedings herein, the affidavit of Edward T. Fride and the depositions of Grant Merritt and Lovell Richie, the arguments of counsel, and being fully advised in the premises, IT IS HEREBY ORDERED that the motion of Appellant is denied.

Dated at Duluth, Minnesota, this 7th day of April, 1971.

By the Court,

/s/C. L. Eckman
C. L. Eckman, Judge thereof

Appellant failed to establish to the satisfaction of the Court that Respondent Agency as such had discontinued or refused to negotiate in good faith, but were in fact studying and considering the modification plan submitted by Appellant to them.

The Court also concluded that although there was evidence of a declared arbitrary position by the Executive Secretary of Respondent, Mr. Merritt, that this in and of itself did not constitute a closing of the door for further negotiations. The Court in denying this motion further considered the timeliness of Appellant's request, having in mind that the Court had set May 15, 1971 as a deadline for the submission of a modified plan by Appellant, but set no deadline date for further negotiations or consideration by Respondent. It would be assumed that Respondent would need additional time to consider in full the plan submitted.

05011

STATE OF MINNESOTA — DISTRICT COURT
COUNTY OF LAKE — SIXTH JUDICIAL DISTRICT

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Reserve Mining Company,
Appellant,
vs.
Minnesota Pollution Control Agency,
Respondent.

ORDER DENYING MOTION FOR AMENDED FINDINGS OF FACT AND CONCLUSIONS OF LAW OR FOR A NEW TRIAL.

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The above-entitled matter came before the Court on the 3rd day of March, 1971 in the Court House, Duluth, St. Louis County, Minnesota on a motion by Respondent, Minnesota Pollution Control Agency, to amend the Findings of Fact and Conclusions of Law dated December 15, 1970 or, in the alternative, for a new trial. John M. Mason, Solicitor General of the State of Minnesota, and Lane Fridell, Assistant Attorney General for the State of Minnesota, appeared for Respondent in support of said motion, and Edward T. Fride appeared in behalf of Appellant Reserve Mining Company in opposition to said motion.

The Court having considered all of the files, records, and proceedings herein, the arguments of counsel pro and con, and being fully apprised in the premises,

IT IS HEREBY ORDERED:

1. Motion to amend Findings of Fact and Conclusions of Law is denied in its entirety.

2. Motion in the alternative for a new trial is denied.

Dated at Duluth, Minnesota, this 8th day of April, 1971.

By the Court,

/s/C. L. Eckman
C. L. Eckman, Judge thereof

EXHIBIT A

## MEMORANDUM

Respondent concluded its motion stating, in part: "In the absence of a record, Respondent is necessarily limited to its trial notes in the specification of grounds for a new trial." In considering this motion, the Court also was without the benefit of a record and was limited in its review of the various grounds for a new trial by its recollection and notes. Accordingly, each of the grounds set forth cannot be discussed in detail in this memorandum. After seven weeks of trial and testimony, it is impossible for the Court to recall and review all of its rulings made from the bench pursuant to objections as to admissibility of testimony or evidence. The Court can only conclude that its rulings were made according to the rules of evidence and the facts and procedure in the trial, and the Court is in no position now to reconsider the various rulings as to their propriety made during the trial.

The Court is satisfied today as it was on December 15, 1970 that its Findings and Conclusions were in conformity with the evidence and the law as it had been submitted in detail during the lengthy trial. If there was error committed by the Court in any of its rulings, Findings, or Conclusions, such will have to be determined by an Appellate Court upon its study of the record. The Court no doubt committed error in some of its rulings, but it has been often said that no trial is conducted without some degree of error present. The Court is of the opinion that if any error was committed by it, that it was not prejudicial to either party.

The Court is of the firm opinion that considerable latitude was granted to both parties in its submission of evidence inasmuch as it was a court trial, and that during the course of the lengthy proceeding, both parties received full opportunity of being heard within proper limits, and both parties were accorded a complete and fair trial.

STATE OF MINNESOTA　　　　　　　　DISTRICT COURT

COUNTY OF LAKE　　　　　　　　SIXTH JUDICIAL DISTRICT

Reserve Mining Company,

Appellant,　　　　FILE NO. 05011

v.　　　　**NOTICE OF APPEAL**

Minnesota Pollution Control
Agency,

Respondent.

TO: Appellant above named, and to EDWARD T. FRIDE, Esq., Sullivan, Hanft, Hastings, Fride & O'Brien, 1200 Alworth Building, Duluth, Minnesota, its Attorney

Please take notice that Respondent Minnesota Pollution Control Agency appeals to the Supreme Court of the State of Minnesota from the Judgment of the District Court entered on January 18, 1971, and from the Order of the District Court entered on April 8, 1971, denying Respondent's Motion for Amended Findings of Fact, Conclusions of Law and Order for Judgment or in the alternative for a New Trial.

Dated: April 19, 1971.

STATE OF MINNESOTA

WARREN SPANNAUS
Attorney General

By John M. Mason
JOHN M. MASON
Solicitor General

and Lane Fridell
LANE C. FRIDELL
Special Assistant
Attorney General

Attorneys for Respondent
Minnesota Pollution Control Agency
160 State Office Building
Saint Paul, Minnesota 55101

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## GRANT J. MERRITT

## EXECUTIVE DIRECTOR, MINNESOTA POLLUTION CONTROL AGENCY

## MINNEAPOLIS, MINNESOTA

MR. MERRITT: Mr. Chairman, my name is Grant J. Merritt, I am the Executive Director of the Minnesota Pollution Control Agency.

We have distributed, and I hope you conferees all have a copy now of the report entitled "Memorandum on Tailings Disposal Modifications Proposed by Reserve Mining Company." Do you have that before you?

I think I'd like to start with that first, if I may, and this is the report Mr. Fride referred to earlier which I delivered to the Reserve Company yesterday. Mr. Fride also referred to this as the agency report just a few minutes ago. It is not the agency report. It is a report, as shown, of one of my staff members and has been reviewed by the staff, but it is not the agency -- hasn't been voted upon by the agency. As a matter of fact, last week I instructed or requested the staff to accelerate our work on this report so that we would have it ready for the conference here today.

I don't think it is necessary to read the entire report. I think I should just read perhaps portions of it and if you have any other questions, we'd be glad to respond. I will read portions that I think are significant to the Reserve matter, and it does pertain to not only the tailings discharge but some of the other pollution problems that are present at Reserve Mining Company, Silver Bay.

MR. DOMINICK: Mr. Merritt, may I interrupt at that point?

MR. MERRITT: Yes, sir.

MR. DOMINICK: The report that we have before us is 8 pages in length.

MR. MERRITT: That's correct.

MR. DOMINICK: And I think it is a very tightly drawn report. I would prefer that you read the entire report for the benefit of the audience.

MR. MERRITT: All right.

MR. DOMINICK: I think it's a valuable use of our time here.

MR. MERRITT: Thank you very much, Mr. Chairman. I'll be glad to do that.

Reserve Mining Company was granted a permit for construction and operation of a waste disposal system for taconite processing wastes by the Minnesota Water Pollution Control Commission on December 18, 1947, with later amendments on July 6, 1956 and September 29, 1960.

The company transports taconite rock from its mine in Babbitt to its processing plant in Silver Bay. At Silver Bay the ore is crushed and water is pumped from Lake Superior and mixed with the ore to make a slurry. Iron is extracted from the slurry by a series of magnetic and hydraulic separations.

About 67,000 tons of tailings from this process (in a slurry of about 3.5 percent solids) are discharged daily. The heavier particles settle at the edge of the delta and the remainder flows on to other parts of the lake.

Based on research with laboratory and pilot models by the

University of Minnesota and other consultants, it was hypothesized that, due to the velocity of the tailings stream and its greater density as compared to the surrounding water, a heavy density current would be created which would carry all of the tailings to a 900-foot deep trough at the bottom of the lake. Significant quantities of tailings, however, have drifted and been deposited in areas of the lake outside the trough. The company has been operating the plant in this manner for about 15 years.

Lake County District Judge Luther Eckman considered Reserve's allegation in 1970 that the Minnesota Pollution Control Agency (MPCA) regulation drawn as WPC-15 -- that's our Federal-State Water Quality Standards -- was arbitrary and unreasonable as applied to Reserve. I might point out parenthetically that Reserve Mining started this lawsuit against the State of Minnesota, I believe it was in November of 1969. Judge Eckman so found that the regulation as applied to Reserve was arbitrary and unreasonable in his opinion of December 15, 1970. The Court, among other findings, directed the company to submit plans to the agency for a modification of its disposal system so that all of the tailings are collected and piped to the bottom of the lake.

The company submitted to the agency for consideration a new plan of tailings disposal. Reserve proposes to thicken the tailings and then pump them through a pipe to a point some 150 feet below the surface of the lake, which also will be below the thermocline, so there will be reduced peeling and billowing off of fines from the action of currents, waves and temperature effects. Consequently the dispersion of fines in the lake could be reduced.

G. Merritt

Thickeners and hydroseparators will concentrate the tailings, according to the Reserve plan, before discharge. Flocculating agents would be used which have been approved by the Public Health Service of the U. S. Environmental Protection Agency for clarification of municipal water supplies. The overflow from the thickeners, which will have a suspended solids concentration of about 160 mg/l, will be discharged to the company harbor at a point about 15 feet below the surface near the plant water intake. The existing delta will be reclaimed by planting trees, shrubs and grasses, and stabilized by a dike to prevent wave erosion. The estimated construction cost for the entire project will be approximately $14 million.

Several probabilities arise from the company's plan, as follows:

1. Both effluents would still be in excess of the suspended solids limit of WPC-15 regulation, which is 30 mg/l.

2. The suspended solids in the clarifier effluent discharged to the harbor may be taken by surface currents into the open waters of the lake. Thus, the green water phenomena may not be eliminated.

3. Dissolution of the tailings in the plant water would continue with the solution being discharged to the lake.

4. The chemical flocculents could have an adverse effect on the biota of the lake, and finally,

5. Complete recirculation of the clarifier effluent for process use may affect the quality of the company's product.

There also are many other waste disposal practices of

Reserve Mining which were not closely reviewed in the past but which now should be scrutinized on the basis of what a new plant of this type would be required to do before a permit for construction and operation of its waste disposal facilities can be recommended. The company has its own plant for generation of electricity. Coal and natural gas are also used as the energy source. During the mining of coal, pyrite, an iron sulfur compound, is also removed with the coal. The coal is stockpiled for company use at Silver Bay and pyrite is exposed to the oxygen in the atmosphere. Rainwater which may percolate through the coal, may chemically react with the pyrite and produce acid waters. Rainwater and surface runoff could carry coal fines and acid waters into the lake. The agency now requires power companies which are constructing coal-fired plants to dike their coal-pile-storage areas so as to catch and treat the drainage from the coal pile before discharge. I might add just in addition, that during a visit to the plant at Silver Bay yesterday, along with two members of my staff, we noticed the coal pile, and this is not a theoretical possibility. The pile is right down on the dock and very, very close to the harbor. I would say some 20 feet.

Powerplants utilize high pressure boilers and high quality boiler water is required. The boiler feed water is demineralized and the beds are regenerated by using acids and bases. The regenerating wastes presently are discharged to the lake. The company has indicated that these wastes could be neutralized and discharged to the municipal sewage system.

Periodically the internal surfaces of the powerplant boilers must be cleaned. There are various chemical compounds which can be used. This waste should also be properly treated before disposal.

If a wet scrubber is installed to wash the powerplant stack gases and remove fly ash, this waste also would have to be treated before discharge. The ashes that formerly were sluiced to lake are now hauled out in dry form. It is understood that Reserve now is considering limiting its fuel to natural gas only, since it appears that gas in greater quantity will become available in the area.

Lake water is used for steam condensing. When this cooling water is mixed with the great flow of process wastewater, there is a termperature rise of only 1° F. to 2° F. in the total mill effluent. However, as part of a new waste disposal plan, the cooling water may have to be separated and cooling towers and/or ponds provided, if this effluent is to be limited to a temperature rise of no more than 3° F. before mixing with the lake water.

Finished iron ore pellets are stored at the mill or at the plant, but no diking is provided around the stockpiles to contain drainage which could carry fines from the pile into the lake. There are some severe storms up there, also, Mr. Chairman and conferees, and Mr. Haley during our visit yesterday mentioned a very severe southeaster which came in the harbor here, I believe in the last year or two, and did create some severe problems. But I don't believe that matter happened -- or there was any drainage from the pile into the water, although that is something that should be checked.

Regulation WPC-4 requires adequate safeguards for storage of liquids which may be potential pollutants if they should flow into waters of the State. Secondary containment for storage of pollutional liquids is required. Other precautionary measures may be indicated for pollutional liquids stored within the plant, as well as such liquids or solids which may at times be in temporary mobile storage on the site.

Reserve is studying methods to increase the iron content of its pellets to make the product more competitive with high grade import ores. For example, I think it might be well to point out at this time that the silica content, the company informed me yesterday, is 9 percent. That is contrasted, for example, with the content of the product manufactured or beneficiated by the U. S. Steel Corporation in Minn-tac, which is approximately 5 percent silica. The University of Minnesota has been doing research at the mill by pilot plant and laboratory models on froth flotation of the ore to remove additional amounts of silica and other impurities. No frothing agent has yet been selected by the company, but many compounds are under consideration. Such agents will have to be carefully screened to avoid any which may pose possible deleterious effects such as long-term toxicity in municipal water supplies, biotic stimulation in the lake, etc., and I would like to add at this point that also one of the problems of having those chutes there and the dumping going into Lake Superior is that matters other than tailings go down those chutes. After one of these conference sessions last year, a group of conservationists and environmentalists met with Colonel McGinnis of the Corps of Engineers, complained about the fly ash which were going down the chutes, too, at that time. The company, to their credit, agreed to discontinue the practice of dumping fly ash in Lake Superior. I have no information indicating that they are now dumping fly ash in the lake as they used to. But the problem is that if you have this type of flocculation or additional compounds for silica and you continue the use of those chutes, some of those additional chemicals or compounds may well end up in Lake Superior, as other chemicals have in the past.

Now back to the statement.

It is a common practice by ore boat operators to dump their sewage and bilge water into the lake while in transit. The Federal Government has not yet regulated this practice. I believe that the Federal Government is about to regulate the practice, however, very shortly, and Minnesota Legislature is considering legislation on this. When ore boats are docked in Minnesota waters, as they are in Reserve's harbor, provision should be made for adequate on-shore disposal of ship sewage, bilge water, galley waste, dunnage, etc. As of right now, the Lake Erie water, which is often used for ballast, is coming up here. And again, according to Mr. Haley in our boat trip yesterday, some of that bilge water, ballast water, goes right in the harbor. Now, yesterday the harbor was terribly green. As a matter of fact, the green water effect extended down about five miles this side -- or would be west of Two Harbors, but in the harbor itself the water was as green as any I've seen. Now, it may well be that not all that green water was from the tailings. It may have been from Lake Erie, come up on the ore boats that have been in the plant, by the way, and several had been in a few hours before my visit yesterday afternoon. I think we ought to be fair to the company. I think some of that water may very well be from another one of the Great Lakes.

The company has proposed a plan to stabilize the delta against erosion by wind and wave action. A dike is to be constructed at the edge of the delta to prevent water erosion, and grasses and other vegetation are to be planted to stabilize the surface of the delta.

Most of the possible alternative disposal methods were examined in the earlier series of reports by Reserve. The proposed tailings disposal plans fall into the following general classifications:

1. Coagulation of the fine tailings and final disposal of all tailings into Lake Superior.

2. Tailings basins for permanent storage of either the fines alone, or all of the tailings, with supernatant being returned to the lake or other nearby waters.

3. Tailings basin as above with total water reuse, and no effluent discharge into Lake Superior.

4. Move the ore crushing and separation units to Babbitt, or haul tailings to point of origin or other location.

Recent studies indicate that taconite tailings in laboratory experiments promoted bacterial and algal growths. In a body of water as large as Lake Superior, such effects may not be immediately apparent, but should they occur there is no practical method of control. The continued discharge of tailings into the lake could encourage algal and bacteria growths. It is estimated that 80 tons of dissolved solids are added to Lake Superior each day with the tailings, which is an unnecessary contribution to eutrophication of the lake. Any waste disposal method whereby the effluent returned to Lake Superior or tributary stream from the system meets the standards of turbidity and suspended solids may still contribute some dissolved solids. However, it is likely that if the effluent conforms with the standards of Regulations WPC 15 and 26, there would be a substantial decrease in the green water nuisance in Lake Superior.

The preferred method of disposal would include recirculation and reuse of all of the process water. If chemicals are added to the water, there may be technical problems in maintaining product quality, but, on the other hand, all of the other taconite companies in Minnesota do reuse their process waters, apparently without serious difficulties. And I might just mention the names of those companies: M. A. Hanna Company, which operates two taconite plants on the Iron Range; the Ford Motor Company, along with Ogelby Norton, which operates one plant at Eveleth; the United States Steel Corporation, which operates a large plant at Mountain Iron; and the Erie Mining Company, which operates a large plant at Hoyt Lakes, Minnesota. All of those companies have a closed-water system and recirculate the water and use the water from the tailings basin.

Land disposal of the plant tailings involves the following considerations:

1. Air pollution. Fine tailings may be picked up by the winds and create some dust. In the operation of tailings basins, areas are built up and dry out, but operators can vary the discharge point so as to minimize areas exposed to drying. I would like to add again, I did visit the Minn-tac plant at Mountain Iron the day

before yesterday, where they had been operating a tailings basin now and producing some 6,000,000 tons of taconite pellets per year for the last 3½ years, and that tailings basin does not have an air or dust pollution problem at the present time. Now, if they do in the future, and they may very well have some dust problem, as this report indicates in general, the company has assured my staff and myself that they would take certain reforestation measures which could reduce and eliminate the dust problem if one does occur.

2. Location of ponds. They should be isolated enough and constructed and managed from the start so as not to interfere with local recreational and aesthetic aspects or tourist developments. When a basin is filled, the area should be stabilized by planting grasses and shrubs and fertilizing. The ponds would have to be maintained in a condition harmonious with the surroundings and returned to the natural state afterwards.

3. Hazards. Sound design and construction practices together with vigorous inspection will reduce to the minimum any danger of impoundment failure.

Ours is a changing world and as our population and productivity increase, so must our concern for their impact on the natural environment we have remaining. It is not realistic to think that outmoded methods of waste disposal can continue indefinitely. However, a method of treatment should be selected which does not require that the company cease doing business.

The staff recommends that the Agency measure any proposed method of tailings disposal by the following criteria:

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1. Water impact

   a. Meets existing standards.

   b. Minimum discharge to surface waters.

   c. Minimum discharge of chemicals of unknown potential effect, such as flocculence or coagulase.

   d. Minimum appropriation of furface saters. The company is now appropriating, gentlemen, some 410,000 gallons of Lake Superior water per minute, and then

   e. Esthetically pleasing.

2. Other considerations

   a. Minimal interference with wildlife, timber production and recreation.

   b. Reclamation potential.

   c. Minimum operation and maintenance.

   d. Minimal nuisance potential such as dusting.

   e. Versatility to handle future tailings production expansion and possible process changes.

   f. Economically feasible.

   g. Maximum reliability.

   h. Minimum construction time.

And the conclusions are as follows: The proposal as presently constituted -- that is the Reserve proposal presented to the conference in January -- fails to meet any of the primary criteria given above and meets only a few of the secondary critera. It is evident that substantial changes in the proposed system are needed if it were to be adopted.

The company has begun research on possible recirculation and reuse of the process water. Reserve should be requested to report on their findings and also provide more detailed information on the many aspects of the proposal which are as yet insufficiently defined to permit detailed evaluation.

That completes the reading of our staff report, Mr. Chairman. I do have a statement now for the conference which I would like to give at this time, and then perhaps the questions afterwards on this report would be appropriate. All right? I think it might be better if I read this statement first, Mr. Chairman, unless you had some question now. I think it might be better to defer that. If that is all right, I'll proceed on that basis.

MR. DOMINICK: Do you have copies of your statement?

MR. MERRITT: No. There have been some changes. We have copies, Mr. Chairman, which I will be glad to distribute, but we thought since we made some changes here that it would be better if I read this statement, which is only about three pages long.

MR. DOMINICK: You may proceed.

MR. MERRITT: Thank you, sir.

Statement for Lake Superior Enforcement Conference April 22 and April 23, 1971.

Minnesota conferees now are Dr. Howard Andersen, Chairman of the agency, Mr. Robert Tuveson, an attorney, member, and myself as the Executive Director of the agency.

The following comments are intended to provide up-to-date information on developments since the January meeting. They relate primarily to the remaining relevant recommendations contained in the U. S. Environmental Protection Agency summaries dated January 26, and December 31, 1970 and recommendations made by the conferees in January, 1971.

G. Merritt

Recommendation 1. In August, 1970, it was recommended by the conference that the States hold hearings within six months on adopting standards, the recommended criteria of the Lake Superior Water Quality Technical Committee for the open waters of Lake Superior. Thereafter the staff of the agency prepared a proposal for a regulation to establish standards for the open waters of Lake Superior known as WPC 33. A public hearing on its adoption was held on February 17th in Duluth, and April 19th in Minneapolis. The reception accorded the proposed regulation was almost unanimously negative. The agency is therefore deferring any further action on such standards, at least until more convincing evidence is furnished as to the need for additional water quality standards as opposed to base line criteria. I might add that this is one that the company and the State of Minnesota are in agreement on. Mr. Fride was at our agency meeting on April 19th, Monday, and opposed these -- the adoption of these WPC 33 criteria at the present time.

Recommendation 2. The Reserve Mining Company after much -- no, strike that. The Reserve Mining Company submitted in January a proposal for tailings disposal modifications, which was referred to the conferees -- by the conferees to a Technical Committee for evaluation. The Technical Committee report was presented separately, and as you know, this proposal was rejected as being inadequate. The same proposal has been submitted to the agency and will be considered in the future.

You will recall that Judge Luther Eckman held Reserve's allegation that the effluent standard of our regulation WPC 15 was arbitrary and unreasonable as applied to Reserve, but at the same time suggested that Reserve submit to the agency for approval a plan to flocculate fines and convey all of the tailings by pipeline to the floor of Lake Superior. The Court also suggested that the agency grant an interim variation or variance from the regulation and proceed with negotiations of the physical facilities to be installed by Reserve. The Attorney General later filed with the Court a motion for amended findings, which was denied. The agency on April 19th, which was Monday of this week, of course, decided that an appeal should be taken to the Minnesota Supreme Court.

I now wish to call to your attention a letter on this matter with Reserve which was sent by Governor Wendell Anderson, Governor of the State of Minnesota, on March 3, 1971, to Lieutenant General Clark of the U. S. Army Corps of Engineers. The letter reads as follows: "Dear General Clark: As you know, the issue over the continued dumping of taconite tailings by Reserve Mining Company in Lake Superior has become a major controversy of national importance. The people of Minnesota are insisting that Reserve Mining Company dispose on-land all taconite tailings from its operation at Silver Bay, Minnesota. My first official act as Governor of Minnesota was to join the State of Minnesota as a full partner in the Lake Superior Federal-State Enforcement Conference. At the time of joining, I stated" -- Governor Anderson related to General Clark -- "that Minnesota will not allow the continued dumping of these taconite tailings in Lake Superior beyond a reasonable time for construction of on-land disposal facilities.

" I wish to apprise you of this new policy and provide some information which may be helpful in your review of the Corps of Engineers permit issued to Reserve. I have been informed by" --

myself or -- "Grant J. Merritt, Executive Director of the Minnesota Pollution Control Agency, that Reserve Mining Company has not been issued a permit under Section 13 of the River and Harbor Act of 1899." That's commonly known, as you gentlemen well know, as the Refuse Act. "Reserve's Federal permit was originally issued by the Corps in 1948 under Section 10 of said law, which provides for excavation or fill rather than under Section 13 which provides for deposition of refuse or other materials. Furthermore, Reserve is not an applicant for a permit within the provisions of the Federal Water Quality Improvement Act of 1970, nor has Reserve Mining Company provided the Corps of Engineers with State certification under Section 21 of this Federal Water Quality Improvement Act of 1970. If Reserve applied for such certification, the State of Minnesota could not and would not certify the continued dumping of taconite tailings in Lake Superior. Any State certification of Reserve's discharge operations would violate the new Minnesota policy prohibiting dumping of taconite tailings in Lake Superior and it would violate the interstate water quality and effluent standards applicable to Reserve." And I might point out on that, that the WPC 15 standards are still in effect. Reserve's appeal and attack on the regulations apply to -- the standards that apply to Reserve, and, of course, that's on appeal to the Minnesota Supreme Court. "In view of the foregoing," the Governor went on to General Clark, "the State of Minnesota hereby respectfully requests immediate revocation of Reserve's U. S. Army Corps of Engineers' permit. Minnesota also requests issuance of a conditional permit authorizing Reserve to continue the dumping of taconite tailings in Lake Superior only under the following conditions: 1, that

Reserve begin immediate construction of suitable and approved on-land disposal facilities, and 2, that the conditional permit continue for a reasonable period not to exceed two years pending completion of the on-land disposal facilities.

"I look forward to your reply, and if there's anything the State of Minnesota could do to assist the Corps of Engineers in resolving this matter, please feel free to contact me. Sincerely Wendell R. Anderson, Governor, State of Minnesota."

This letter represents another step in implementation of the new policy which was announced by Governor Anderson at his first act upon taking office, at which time he announced that he was formally bringing Minnesota into the conference and strongly urged at that time that Reserve be required to cease depositing tailings in Lake Superior. In keeping with this policy, I request that the conference endorse this letter and go on record as supporting the request to the U. S. Army Corps of Engineers, that it immediately revoke Reserve's permit and issue a conditional permit as described in Governor Anderson's letter.

That completes the statement of the conferees, Mr. Chairman, and I'd be glad to answer any questions.

MR. DOMINICK: Thank you very much, Mr. Merritt, for a comprehensive statement. Do we have any other comments from conferees from the State of Minnesota?

DR. ANDERSEN: I believe not, Mr. Chairman.

MR. DOMINICK: Any questions or comments from the conferees, please?

MR. FRANGOS: Mr. Chairman, I have a question for some clarification, just so that I can understand what is at work here.

There has obviously been a flurry of legal and administrative activity over the last 20 days or so. But, again, just for my own understanding of what is occurring here, with respect to the State Court proceeding, Mr. Merritt, do you understand that the appeal by your agency prohibits you from proceeding as the trial court judge instructed, or does that stay the negotiating process?

MR. MERRITT: I don't know. That is a very good question, Mr. Chairman and Mr. Frangos. I don't think that decision has been resolved as yet. We'll have to discuss the matter with the Attorney General of Minnesota. The agency, as you know, just decided Monday to appeal this decision to the Supreme Court, and Tuesday I went up to the Minn-tac operation and yesterday to Silver Bay. I have not had a chance to discuss that question with the Attorney General, so I would not want to speculate on that matter at this time.

MR. DOMINICK: Further questions, please?

MR. McDONALD: Yes. On Page 3 of your statement, Mr. Merritt, where you quote from the Governor's letter --

MR. MERRITT: Yes.

MR McDONALD: -- to the Corps of Engineers, you state that any State certification of Reserve's discharge operations would violate the new Minnesota policy prohibiting dumping taconite tailings in Lake Superior and would violate the interstate water quality and effluent standards applicable to Reserve. Would you itemize those violations for the benefit of the conferees?

MR. MERRITT: Well, yes. Of course, these are the regulations that are in court, or at least most of them, Mr. McDonald and Mr. Chairman. I'll be glad to mention the crucial one, of course, is our regulation which precludes dumping anymore than 30 mg/l of suspended solids in Lake Superior. This is the standard which I mentioned earlier in the staff report or the staff report alluded to. Reserve now exceeds that standard by some 800 time -- 860 times I guess. I'd be glad to present a copy of our WPC 15, which contains the standards on Jackson turbidity units and dissolved solids or other standards. I don't want to quote from them, however, unless I have them in front of me. I'd be glad to furnish them at any time.

MR. McDONALD: Well, I think it would be helpful to submit for the conferees exactly what violations you feel are specified in that.

MR. MERRITT: Yes. Well, that one and the nondegradation standard. We have a nondegradation standard in our water quality standards, and that and the 30 mg/l of suspended solids are the two critical ones.

DR. ANDERSEN: Turbidity.

MR. MERRITT: And the turbidity, Dr. Andersen informs me.

Our turbidity, do you know what that exact standard is, Dr. Andersen?

DR. ANDERSEN: No, I don't.

MR. MERRITT: I think it is 25 Jackson units, but I don't want -- of course, we have our staff here and I'll be glad to furnish that. But it is primarily a nondegradation standard and the 30 mg/l of suspended solids that are at issue here. And that is the one basis for the statement in the Governor's letter, as I understand it, and, of course, the other is the policy against dumping, based on the will of the people.

I might just, since there was a flurry from the audience, just add, if I might, Mr. Chairman, on this point about whether the democratic system really works, I think that the issue here is whether we wait and we study and we investigate the pollution of Lake Superior by Reserve Mining Company for an interminable length so that we have complete and 100-percent information, and then we take action. If we do, the damage is irreversible and the damage has already been done. I think the critical point is that we now have a policy based on what the people of Minnesota want, and I assume what the people of Wisconsin and Michigan want, which is based, I am sure in part, on the technical findings. And there is substantial evidence of pollution already before the conference. But over and above that the people have decided this is their lake; it's a public trust and that the company should not dump tailings in the lake.

MR. McDONALD: Mr. Merritt, I would like to pursue that list of violations a little bit more, to the extent that I think we need really a definitive bill of particulars from you on exactly what you're talking about when you're talking about the violations, and if you could itemize those as soon as possible and then --

MR. MERRITT: Sure.

MR. McDONALD: -- present them to the conferees so we'll have an opportunity to discuss these.

MR. DOMINICK: I suggest, Mr. McDonald, that this will require a consultation of Mr. Merritt with his staff. It will require him to get the standards themselves, and I would look forward to a presentation to the conferees at such time as you are able to do that.

MR. MERRITT: That is very good. We have specified the two that are the major problems. I'd be glad to furnish the remaining ones just as our staff can come up with them.

MR. STEIN: Can we have the indication that you think they're being violated, not just the citation or the standards but the violations that are occurring?

MR. MERRITT: Well, yes. Of course --

MR. STEIN: So we can see them.

MR. MERRITT: Mr. Commissioner and Mr. Stein, that is, of course, the matter that was before Judge Eckman, as you know, and he found that those standards as applied to Reserve were arbitrary and unreasonable.

MR. STEIN: No, I am not arguing that at all. Let's make this clear. This is a question of clarifying it. I think if we are talking about Federal and State standards being violated, what we have to have is the precise standard and how you believe that they are being violated. Then we can proceed on that section. That is a prerequisite for our taking any action, and we would like your views on that. I think this is just necessary groundwork for us to consider those violations.

MR. MERRITT: Fine. Let me just elaborate, if I might, Mr. Chairman and Mr. Stein, on that. Let's take the 30 mg/l of suspended solids. The company admits -- there isn't any question about this -- that they exceed that standard by 800 times, and I'm being conservative on that. I think it's 867 times. That is the first major standard that we are talking about here, and Reserve is dumping a tremendous volume in the -- in the tens of thousands of suspended solids per liter in the Lake Superior waters. Of course, they are violating the nondegradation standard. So that I think that if you look at the suspended solids standard and you start there, there is no question of the facts. The company admits them, and we can go from there.

MR. DOMINICK: Yes. Mr. Merritt, I think you have addressed the suspended solids violation, the nondegradation violations. What we would like to have is an opportunity for you to address all of the standards that are applicable in this case to these waters, Federal-State standards, and enumerate additional violations of those standards for the conferees.

MR. MERRITT: I will be glad to do that, Mr. Chairman, and I would also like to ask a question of the Federal conferees at this point. You know, one of the interesting things about this system is we have what is called a Federal-State standard here, as you well know, WPC 15. It was approved in part by the Secretary of the Interior. The question comes up now, what is left of that Federal-State standard, WPC 15, after Judge Eckman's decision? And let's assume that the Supreme Court were to sustain that finding of Judge Eckman's, what is left of that WPC 15? This is a question I have for the Federal conferees. For example, is the nondegradation standard one that the Secretary can approve? I know he can't approve effluent standards, is my understanding, Mr. Chairman, but I'm not sure about some of the remaining portions of this, and maybe we could get some clarification on this during the session at some point. It would be helpful to Minnesota I think.

MR. DOMINICK: To address your question, Mr. Merritt, I think this is not the forum to discuss the legal merits or demerits of the effect of a State court ruling on Federal-State standards. Suffice it to say, that legal opinions or rulings to the contrary, I, as an official of the Federal Government, take the position that the State court proceedings do not affect the enforceability of the Federal-State standards, and that they remain as a mechanism available to the Federal Government in proceeding in this case.

MR. MERRITT: Thank you very mucy, Mr. Chairman. That sheds a great deal of light on it, at least for my benefit anyway, and the State of Minnesota, I think.

MR. DOMINICK: Further question, please?

MR. MERRITT: Thank you very much.

MR. DOMINICK: Thank you very much, Mr. Merritt.

State of Wisconsin.

MR. FRANGOS: Yes. Mr. Chairman, as indicated in the agenda, our comments will be limited to the Reserve Mining Company question.

VOICE: Can't hear you.

MR. FRANGOS: Let's try that. How's that?

VOICE: Fine.

MR. FRANGOS: As I say, our comments will be limited to the Reserve Mining question as outlined in the agenda of the conference.

I would state that the position of Wisconsin was clearly stated by Governor Patrick Lucey at the last session of this conference, and that position has not changed. Essentially it rejects the proposal that any tailings be permitted to Lake Superior. It supports the position of Governor Anderson for on-land disposal. Further, we endorse and support the report and recommendations of the Technical Committee. If these recommendations are adopted, we would look to the State of Minnesota to secure compliance in accordance with the Federal statute and in accordance with practices applied to other polluters in this conference. We feel that we have reached an understanding of what is needed to protect the lake. Additionally, we feel that considerations of environmental impact and securing compliance ought to be a primary responsibility of the State of Minnesota. At the same time, we do recognize the potential for delay that is inherent in the procedures provided by the statutes under which this conference procedure is operated. If these delays appear to develop and continue, we would urge that the Federal Government and the agency vigorously puruse alternative enforcement remedies that are presently available under other Federal statutes.

This completes our statement, Mr. Chairman.

MR. DOMINICK: Thank you very much, Mr. Frangos.

Any questions or comments?

Any questions from the State of Minnesota?

Could we then have a statement from the State of Michigan?

MR. FROST: Mr. Chairman, Michigan expects all waste discharges to Lake Superior from within Michigan to be treated or controlled to the extent necessary to meet the interstate water quality standards. We further expect that similar action will be taken in all other areas. In this instance, we recognize the primary responsibility rests with the State of Minnesota and are aware of the actions now being taken by that State in an effort to obtain that control. We would therefore encourage Minnesota in its efforts to resolve the matter and insure compliance with the standards.

This completes our statement at this time, Mr. Chairman.

MR. DOMINICK: Any questions or comments? If not, we will recess this conference until 2:00 o'clock in this room.

(Whereupon, the conference recessed for lunch.)

## AFTERNOON SESSION

MR. DOMINICK: Will the conference please come to order.

At this time, we would like to hear from interested private citizens or groups relative to the issue being discussed in today's portion of the conference; namely, the Reserve Mining discharge. I think the most orderly way to go about this is to ask that those citizens and groups that wish to speak make contact with their State conferees and the State conferees present us with a short agenda of those wishing to speak.

I believe Mr. Grant Merritt of Minnesota has a number of names of citizens and groups that would like to address the conference, and we will go from Mr. Merritt to Mr. Frangos and from there to the Michigan conferee to hear from any other citizen groups.

Mr. Merritt.

MR. MERRITT: Yes, Mr. Chairman. Mr. Chairman, as of right now, and maybe there are some others that are interested, but from Minnesota we have the following requests for appearances by private citizens:

First of all, the Northern Environmental Council, which includes the Save Lake Superior Association as part of its presentation.

The local 5296 of the steel workers, Mr. Gene Roach, President of the Local at Silver Bay.

Mr. Eldon Kirsch, staff representative of the U. S. Steel Workers International.

Mr. Larry Dickinson, a high school student at Silver Bay.

There may be one or two others, but as of now, that's the list, and I think at this time, Mr. Chairman, I would call on the group that asked first to be heard, and that is the Northern Environmental Council, and I believe Mr. Herbert Bergson will give their presentation.

MR. DOMINICK: Very well. I'm very happy to hear from the Council.

MR. MERRITT: Like I say, Mr. Bergson is President of the Save Lake Superior Association of the Minnesota Chapter.

MR. DOMINICK: Very happy to have you here, Mr. Bergson.

MR. BERGSON: Thank you, Mr. Chairman.

## HERBERT W. BERGSON
## PRESIDENT, SAVE LAKE SUPERIOR ASSOCIATION
## SECRETARY, NORTHERN ENVIRONMENTAL COUNCIL
## DULUTH, MINNESOTA

Mr. Chairman, conferees, ladies and gentlemen, my name is Herbert Bergson. I am the President of the Save Lake Superior Association and Secretary of the Northern Environmental Council and a coordinating group of 32 conservation organizations. In presenting this study commissioned by the above groups -- and I'd like to name just a few of them -- we have the Brew River Sportsmen, Incorporated; the Duluth Bird Club; Friends of Wilderness; the Isaak Walton League; MECCA; United Northern Sportsmen; Wisconsin Resources Commission.

We would like to present our thing today in three parts. I will lead off with Part 1. Mr. Bruce Niss, Research Associate for Norak will present the second part on technical appraisal of alternate on-land disposal methods. And Mr. Charles Stoddard, Resource Consultant for Norak, will present the analysis of economic and financial feasibility of on-land disposal of tailings.

As you know, the record shows Governor Wendell Anderson of Minnesota and Governor Patrick Lucey of Wisconsin have called for a complete on-land disposal of all tailings. I would like at this time to read a letter from Governor William G. Milliken of Michigan concerning this matter that has never gone into the record officially I don't believe. It was mentioned this morning, however. This letter is to the Save Lake Superior Association.

HONORABLE WILLIAM G. MILLIKEN

GOVERNOR, STATE OF MICHIGAN

(read by H. Bergson)

"Gentlemen:

"I wish to acknowledge your recent letter concerning Michigan's position on the matter of Reserve Mining Company's taconite tailings disposal operations. Prior to the January meeting of the Lake Superior Enforcement Conference, I advised the Governors of Minnesota, and Wisconsin via telegram that, 'My full support is with the actions you will take for the protection of that magnificent lake.' This remains our position. The State of Minnesota has been diligently striving to resolve this matter. Michigan will continue to fully support the position of the State of Minnesota regarding the taconite disposal operations of the Reserve Mining Company. Sincerely, William G. Milliken, Governor of Michigan."

MR. DOMINICK: Do you have the date of that?

MR. BERGSON: March 29.

MR. DOMINICK: Thank you very much.

MR. BERGSON: I am very pleased today to see such a large group of people here, particularly the people from the Silver Bay area, and I am sure after you have had a chance to hear our on-land proposal, you will see that not only will a pollution of Lake Superior be stopped, but more jobs will be created.

It is indeed fitting that this sixth and hopefully final conference on enforcement of antipollution laws to clean up Lake Superior takes place during Earth Week. The whole Nation is looking to you conferees to show that our Federal and State Governments can deal effectively with environmental pollution. In many ways Lake Superior is the final test of our laws, our administrative agencies, and even more, of our national will to clean up our environment. If this largest and still cleanest of our Great Lakes cannot be saved by your decisions today, those who say the system doesn't work will be proven right. You cannot let this happen.

Substantial though halting progress has been made at the previous conferences in issuing orders, establishing standards and setting deadlines for cleaning effluent sources by all municipalities and industries except one. All others except for the major holdout have shown respect for the law, a concern for the environment, and a willingness to meet their public responsibilities, even though substantial costs are involved. But the largest polluter on the lake and possibly in the Nation continues to use every trick and ruse to avoid its public responsibility. The Nader report, Water Wasteland, exposed to full public view how this Company has constantly resorted to political manipulation to discredit the Interior study which brought this conference into being. The public has been subjected to a barrage of public relations propaganda. We have seen the laws of our State and country challenged in court for this Company, which have enabled it to abuse the privilege of freedom so as to continue its profitable polluting. There are few cases in the annals of pollution control which can compare with that of Reserve Mining Company. One such case is Republic Steel Company, a half owner in Reserve, which was finally forced by the U. S. Supreme Court, after 12 years of litigation, to cease and desist its damaging discharge into the Calumet River and Lake Michigan at Chicago.

One major reason for this difficulty we face in bringing this polluter into conformity with the law is the inadequacy of the law itself, as Ralph Nader has so ably documented. The law requires that government prove its case, rather than requiring the polluter to prove that its effluent is not a pollutant. Despite all the conflicting testimony, Reserve's 67,000 tons of tailings has been proven harmful to the lake. But although the law does not give the polluter the initiative in deciding how his effluent will be controlled, this conference has allowed Reserve Mining Company full freedom in making this decision. And the one proposal finally offered by Reserve has been a halfway and inadequate measure which not only fails to keep the 67,000 tons of taconite tailings out of Lake Superior, but it opens the door to every other polluter to equal time for halfway sewage treatment. Logically, they may ask, if big Reserve can get away with its continued pollution, what justice is there in requiring 100 percent treatment of our effluent?

Because Reserve's Task Force report with 19 different plans contained so much questionable and contradictory data, and because Reserve alone analyzed its own data, the time for hard analysis is long past due. Previous comparison of the several contracting consultants' studies in the Reserve Task Force report reveals substantial differences in the basic data presented. With so many major discrpencies a shadow of credibility is cast over the whole effort. If the conference had judged the results and had made its own hard analysis, Reserve would not have been allowed to select the easy, unacceptable measure it proposed in January. That proposal, as you know, would have simply hardened up the fine tailings with an as yet unannounced chemical so as to let them continue to slide into the bottom of the lake along with the heavier material. The fine particles would no longer circulate, but the chemical and the soluble nutrients would still go into Superior and the lake would continue to be the dumping ground of the Nation's largest polluter.

In order to obtain a more objective analysis than has been heretofore available, Save Lake Superior Association and the Northern Environmental Council sought to engage the services of independent mining engineers knowledgeable in tailings control systems. We found, however, that individual members of this close society of mining engineers feared economic and political retaliation if they provided open assistance. This was even true of University Mining professors, who derived their living from the taxpayers, but often take consulting contracts with large mining corporations. Fortunately, there are still a few with public interest conscience who volunteered their services and expertise, but they asked that their names not be used. Accordingly, we were able to obtain the assistance of three highly reputable and capable engineers who gave their time and talent in pointing out the merits, sound aspects, inadequacies and contradictions in the contract at Reserve studies. It was gratifying these men also pointed out that several of the plans deserve more than -- much more consideration than Reserve had given them, and went further to recommend several alternate modified plans.

Let us now examine their findings and comparisons between the several Reserve contract studies to show why the data in them must be reappraised, in order to gain an accurate estimate of the cost of on-land waste disposal.

I will now call on Mr. Bruce Niss, who will continue with the rest of the presentation.

## BRUCE M. NISS

### RESEARCH ASSOCIATE, NORTHERN ENVIRONMENTAL COUNCIL

### DULUTH, MINNESOTA

MR. NISS: Mr. Chairman, distinguished conferees, ladies and genetlemen, my name is Bruce M. Niss. I am a research associate for the Northern Environmental Council.

VOICE: Can't hear you.

MR. NISS: My name is Bruce M. Niss. I am Research Associate for the Northern Environmental Council.

In researching various on-land tailings disposal techniques, we have considered three different systems carried out by Reserve's contract consultants. Basically these are: Piping all tailings to a dam in the Lax Lake area. This was studied by a firm hired by Reserve Mining Company (the name of which was Trygve Hoff & Associates) carrying all tailings back to Babbitt -- back

B. Niss

to the Babbitt mine via the railroad. This was also studied by Trygve Hoff & Associates. And the third, railroading the coarse tailings to the Lax Lake Basin and constructing a dam of them, then piping the fines into the impoundment.

A fourth system was also considered. This was the moving of the concentrator operations back to the Babbitt site. However, it was not given thorough consideration because of the limited time for study and indications of prohibitive cost.

Before undertaking our comparative analysis of these alternate systems, we would like to point out some of the data problems which turned up in the consultants' studies. In studying the various components of the three systems mentioned, several examples of the discrepencies are noted as follows:

The Bechtel studies get longer life from thinner pipe and from less pipe than do the Trygve Hoff plans. To be specific, Bechtel gets 20 years of life from two 18-inch diameter pipes of 3/8 inch thickness. Trygve Hoff predicts only nine years of life from five 16-inch pipes of 1/2 inch diameter thickness -- 1/2 inch thickness.

For the same sized tailings basin, Trygve Hoff chose a pipeline that was two miles longer than that chosen by Bechtel or the one suggested by the Bureau of Mines. This would have greatly increased costs as the result. If there was a cheaper route, why didn't Trygve Hoff choose it?

Bechtel Corporation plans for a tailings slurry of 50 percent solids. This is the agreed upon optimum and is what a large number of the other companies use. Trygve Hoff plans for a slurry of only 30 percent solids, thereby pumping less tailings volume and requiring more time in which to pump it.

Bechtel uses coarse taconite tailings in the construction of its dam. Trygve Hoff recommends a rock dam with an initial investment of almost $25 million. If Bechtel thought there was much danger of their tailings dam failing, they would have designed theirs of rock also.

The Bureau of Mines estimates that a dam containing 8,000,000 cubic yards of rock would reach contour of 1,250 in the basin. Trygve Hoff estimates that a dam in the same place, but 25 feet lower, would require 12,703,603 cubic yards of rocks, also costing more. In other words, the Bureau of Mines cubic yard fills more space than does the cubic yard used by Trygve Hoff.

The above examples illustrate some of the more obvious over-engineering and over-estimating aspects of these reports that were contracted by Reserve Mining Company. Without independent appraisal, it is obviously not logical to entrust the study of various disposal systems to those who have a prior established interest in the outcome of the studies and still expect the investigative results to be completely unbiased.

Here, I might depart from my prepared speech and say, on the radio the other day I heard about a company who had come out with a statement saying that chocolate has no whatsoever effect upon the acne of teenagers. Now, I am sure some of you people have or might be in the future concerned with this problem. Well, you know who the study was done by? Hershey Chocolate of Pennsylvania.

As for these three systems themselves, associated advantages and disadvantages should be compared to determine which one is the most environmentally and technologically feasible.

Study No. 1, total tailings disposal in the Lax Lake area: Piping all tailings behind a rock dam in the Lax Lake area would have some obvious drawbacks under the study done by Trygve Hoff & Associates was quick to point out.

One of the disadvantages would be that it is expensive to regrind the coarse tailings to make the piping easier or you would have to suffer the high maintenance costs associated with increased wear on pipes and pumps when the coarse tailings were pumped through them.

The Lax Lake -- back to the Trygve Hoff study again. The Lax Lake area would be inundated. However, this is a small price to pay to save Lake Superior. This system would, essentially, be a trade-off; Lax Lake for Lake Superior. When compared to Lake Superior, the recreational and environmental qualities represented at Lax Lake are hardly comparable.

Study No. 2, disposal of tailings near taconite mine: The major costs of all disposal systems are in the transportation of tailings and their impoundment. So any system that could make the most use of existing components of transportation and impoundment systems already in existence would be the most efficient. The impoundment area is already in existence -- the Babbitt mine -- and so is the transportation system -- the Babbitt-Silver Bay Railroad. Since the mine is already a relatively sterile area, the environmental costs here would be least of any basin studied. Although Trygve Hoff & Associates already studied this system, it is one that should be given more thorough study.

B. Niss

The third study that we looked over was the coarse tailings rail hauled to Lax Lake area all year. We feel the system having the most advantages, and the one that should be constructed, is the transportation of tailings by railroad and pipeline to the valley below Lax Lake. A fairly competent basic study of this method has already been done by Bechtel Corporation. Excuse me. All right. Briefly, it is composed of a dam constructed of the coarse tailings with the fines piped in behind it, the rudiments of a water recycling and purification system, and a conveyer and stacker to transport the coarse tailings from the railroad to the dam site. This system has a number of advantages.

Advantage 1, it requires the shortest haul to the impoundment site of any plan yet studied. It therefore can transport more tailings in less time and at less cost than any of the others.

Lax Lake itself would not be inundated. Allowing for 10 feet of water on top of the tailings for settling purposes, the water would reach only to contour 1,270. This is because the dam is constructed with the coarse tailings and it removes that much volume from the tailings basin. This is also borne out in the Bechtel study. This would eliminate one of the environmental concerns.

Through the use of a return pipe and water treatment plant, this system has the basic requirements of a closed water system. This would eliminate all of the problems associated with the green water, the dissolved, and suspended solids and so on, which were in the Technical Committee's objection.

B. Niss

By using as much of the coarse tails as possible for dam construction, both tailings disposal and impoundment requirements are accomplished at the same time for the same price.

The entire Lax Lake Basin is protected by hills reaching 200 feet higher than the top of the proposed impoundment and is also protected by timber on all sides. This would lessen considerably any chances of air pollution from blowing tailings, and would aid in regeneration of vegetation once the basin is reclaimed.

Here I might add that one of our engineers, who used to work up on the range, worked at one of the mining companies for five years, and he has seen what he might call air pollution once in those five years while working for a mining company.

A number of improvements would have to be made in the Bechtel design that would be essential to complete the system. It does have a number of shortcomings.

The water treatment facility would have to be redesigned. As it stands now, it allows for the return of purified water to Lake Superior. This, I understand, is unacceptable by the State.

Runoff diversion canals could be built on Big 39, Little 39, and East Branch Creek to divert over one-half of the watershed runoff from the basin area and thereby cutting down on the amount of water coming into the tailings basin.

A hydroelectric turban could be installed in the return pipe to provide the needed power to run pumps and clarifiers, etc. Of course, this would also cut down on your associated costs.

It is fairly clear that the disposal system we favor, the Reserve Mining Task Force Report No. 6, "Coarse Tailings Rail Hauled to Lax Lake All Year" is technologically feasible. The major share of the preliminary engineering is already done. This could conceivably reduce the time required to build this facility. We estimate this construction period to take approximately 24 months - two years.

Of course, the next question that needs to be answered would be, What is the cost of this system? or, What is the Reserve Mining Company's ability to pay for it? This will be covered in the next part of our proposal.

I would like to solicit questions from the conferees at this point.

MR. DOMINICK: May we interrupt at that point? This is a very excellent report. Could you describe to the conference your background and experience in this area?

MR. NISS: I have none. I am simply the research associate. I was in close contact with our engineers and worked with them on this. I am a professional forester by trade.

MR. DOMINICK: You are a what?

MR. NISS: A professional forester.

MR. DOMINICK: Very good, and what is your educational experience?

MR. NISS: I have had four years at the University of Minnesota and worked for five years with the U. S. Forest Service.

MR. DOMINICK: Excellent.

Could we ask some questions about the technological feasibility of the proposal that you have put forward here. That is, really your review of earlier proposals made by the Reserve Mining Company. It is my understanding that one of the principal drawbacks of the so-called below Lax Lake rail haul system is the capacity of that area to receive large amounts of tailings over a continued period of time. Have you evaluated the capacity of that area to accept the quantity of tailings that may be involved?

MR. NISS: Yes, we have. There is a chart here on the back of the Bechtel study that shows the tailings would only reach to contour elevation 1,260 in 40 years.

MR. DOMINICK: In how long?

MR. NISS: In 40 years, and for the 10 or so feet of water to provide for settling, as I said, this would reach to contour elevation 1,270.

I also might add that it is our understanding that a number of mining companies have had numerous requests for purchases of its coarse tailings for use in bituminous road surfaces. These tailings also meet the specifications of the American Water Association for municipal water filter media. I'm sure that the Minnesota --

(Laughter)

MR. DOMINICK: I guess that cuts two ways. We've got unanimous support.

MR. NISS: We understand that -- now, I also want to point out -- I'll get to that later. I'm sure that the -- well, all right. That last statement is a direct quote from your Reserve Mining Study No. 19 covered in their Engineering Task Force Progress Report. Now, there are -- well, excuse me. I also might mention that as the last page in the report says, this was by-product use of tailings. This study has only been recently begun and little progress has been made to date. Oral report on preliminary engineering studies and partial cost estimates are expected within 90 days. Written report expected approximately one month later. As to this date, I believe that none of the conferees have received this report on the by-product use of tailings. This could substantially decrease the amount of tailings put into the basin.

MR. STEIN: I wonder if it might be adviseable to have the company comment on this? We have been over this proposal many times. The real question from below Lax Lake -- the proposal that you are putting forward -- is the time element involved and getting to an agreement that Lax Lake will have sufficient capacity to do the job. If it has it is a viable proposal. If it doesn't, then we have to look at this, and I think this has been the key point that has been raised here. We have no judgement on this, but I think this is really the key point.

MR. NISS: What kind of an answer do you expect?

MR. STEIN: No. I heard your answer, but I am inviting Reserve to comment on this again. We have here their comments before. Now, I understand your proposal to indicate that the below Lax Lake proposal can work if they use part of their tailings for a dike and if they sell part of it for road surfacing and they use part of it, heaven forbid, for a water company. I don't know what the market for that last one is myself.

MR. NISS: Mr. Stein, according to the Bechtel study, it would work even if they didn't use the amount of tailings used for by-products.

MR. STEIN: Okay. In other words, you think this below Lax Lake site that you propose here is sufficient to handle the tailings for the next 40 years?

MR. NISS: Yes, we do.

MR. STEIN: All right.

MR. DOMINICK: Thank you.

Are we ready to go to the economic proposals or do you have some other questions?

MR. MERRITT: Mr. Chairman.

MR. DOMINICK: Mr. Merritt

MR. MERRITT: I have a question. One of the company objections to a tailings basin, Mr. Niss, as I understand it, in the Lax Lake area is that there would be water coming down the valley there that would carry off some of the fines into the Beaver River and then into Lake Superior. From your study, when you talk about diversion canals, runoff canals surround the basin area, do I understand correctly that the water then in the valley around this basin would be diverted in its entirety and that none of the fines or other materials from the basin would enter the Beaver River and end up in Lake Superior?

MR. NISS: Essentially that is correct, yes, sir.

MR. STEIN: Let me ask you one more question, just to understand this. That is on your "b" on Page 7. Presumably you have Big 39, Little 39 and East Branch Creek falling into this area. Are you proposing -- and this is just so I understand -- that we build diversion canals so the water from these streams does not go into this disposal area but somewhere else?

MR. NISS: That's true.

MR. STEIN: Not into the natural watershed?

MR. NISS: Yes, Mr. Stein. This was covered in the Trygve Hoff proposal.

MR. STEIN: Yes, I understand this, but when a frank --

MR. NISS: Mr. Stein, not to mean any disrespect, sir, but all these questions that you are asking me are in booklets that I understand that your conferees have had since last August, sir.

MR. STEIN: If you will just listen until we get through with the foundation, you might listen to the question. I am just laying a foundation there. When we get diversion of water from the natural water pumps into another body, we have some severe questions. Now, I would like to ask you and Minnesota what the problems are going to be if we do not let these streams run into their same watercourse and have to divert it to another watershed. What is the impact? This is one of the most severe questions we have. I am not meaning to criticize your operation here, but I am trying to get the facts, because I know every time we come up with any proposal that has an inherent in it of a water diversion from a natural watershed to another watershed, we run into some very difficult legal and technical problems. I wonder how you would respond to this in diverting these three creeks?

MR. NISS: Well, understand it, the Trygve Hoff proposal did include this in its engineering studies, and this would have to be one of the questions that if this system was designed, it would have to be answered.

MR. STEIN: I know, but let me tell you, one of the hardest questions that I have had in my career -- you don't have to look at this very hard -- was that of taking the water from the Colorado River Basin into Southern California. I spent half of my career working on the Great Lakes diversion case. We all know the problems that we have in the Delaware River and in New York in getting the waters up from Delaware to Delaware Water Gap into New York drinking water. Now, the question I have to raise here is that we don't likewise make the wrong assumption. I wonder if your group has thought of that -- how are we going to divert the water from three creeks to another water basin? Have you thought about that? By the way, I don't say this is insurmountable, but I wonder if you have thought about where we are going to put the water and what the legal consequences are for having done that?

MR. NISS: Not being a lawyer, I have no idea.

MR. STEIN: All right. But this is really the question I had in mind.

MR. DOMINICK: Let's proceed on to the economic feasibility discussion.

C. H. Stoddard

CHARLES H. STODDARD

RESOURCE CONSULTANT, WOLF SPRINGS FOREST

MINONG, WISCONSIN

MR. STODDARD: Mr. Chairman, this study of the Northern Environmental Council and the Save Lake Superior Association consisted of two parts -- the technical feasibility of studies that were already completed for Reserve by various consultants and then an evaluation of them. This is the kind of job that we feel that basically the Federal-State conferees should have undertaken sometime ago and made under their own initiative. The last portion which deals with one specific portion of the criteria that were set up and mentioned this morning on economic feasibility will be the concluding part of our paper.

The only reason polluters large and small balk at the installation of treatment facilities is because pollution control costs money. Large industries frequently threaten to close their plants in order to continue their free abuse of the public environment. The public is advised it must suffer continuance of this degradation to support jobs, payrolls and taxes. This is sheer nonsense -- scare tactics of the basest sort. A society, or even an industry, which must depend upon environmental damage to survive does not deserve survival. A study of Reserve Mining Company's financial status shows it to be surviving very well, and can well afford to dispose of its waste outside the lake without financial difficulty. If this captive corporation of Republic Steel and ARMCO were close to the financial margin, it conceivably might have some justification for asking society for the very special privilege of sullying our greatest of Great Lakes.

C. H. Stoddard

But to continue to demand this privilege merely for excessive profits for two absentee stockholders, strains the concept of social responsibility far beyond credible limits. ARMCO and Republic Steel hardly can fit the category of widows and orphans.

At the State court trial last summer in Two Harbors, where Reserve challenged the State of Minnesota right to establish effluent standards for teconite tailings, it said these standards were unreasonable. The exceptionally profitable situation of this closely held company was fully, if only briefly, exposed to the public view through the reports of the certified public accounting firm, Touche Ross & Company, of Minneapolis. They reported that from 1967 through 1969 Reserve cleared on the average $15½ million per year as net profit, after taxes. The actual net pro forma funds amount to more than $2.00 per ton for every one of the 10,000,000 tons it produces annually. The Silver Bay plant is reputed to be the most profitable in the taconite industry, largely due to savings resulting from dumping its wastes into Lake Superior, thus avoiding the requirement for a closed system of waste disposal imposed upon and accepted by every other taconite reduction plant in the country. These savings amount to over $5 million per year or at least $14,000 per day, which is sent back to the two absentee stockholders in Ohio.

Reserve's current financial status without pollution control: Let us examine Reserve's financial records, based on Touche Ross & Company's report at the court trial, to see whether this concern can, in effect, afford to place its waste into an on-land disposal system.

The following data were reported by this certified public accountant:

1. Average annual book profit after taxes, $15,580,000 for those 3 years that I mentioned.

2. Rate of return on funds provided by ARMCO and Republic Steel, three years average, 49.24 percent.

3. Pro forma funds available for pollution control now being paid to ARMCO and Republic, 3-year average, $2.19 per ton of pellets produced. The term "pro forma" means that it is calculated from company data and based upon stated assumptions.

The complete financial analysis by Touche Ross & Company is given in its report which is public information on file with the Minnesota Pollution Control Agency.

Financial impacts of added pollution control costs: Touche Ross & Company went on to calculate the impact of pollution control costs on Reserve's financial system. If Reserve had installed one of the most expensive on-land pollution control facilities during this period, Proposal No. 2 -- that is the hauling back of all of the tailings for the taconite mine near Babbitt at a cost per ton of pellets produced of 125 per ton, an average annual total cost of $12,490,000 and a capital investment of $74 million, which is roughly double the figure for the plan selected by Save Lake Superior Association-Norther Environmental Council engineers which was previously set forth in Mr. Niss' testimony, the calculated financial results for the same 3-year period would have been, according to the same CPA, adjusted profit, $6¼ million; adjusted rate of return to Republic and ARMCO, almost 20 percent; pro forma funds available per ton of taconite pellets produced, $1.17.

C. H. Stoddard

Projecting added pollution control costs into the future, how would Reserve fair financially?

A 20-year forecast of profits after taxes would amount to $11½ million per year. This would be a $4 million reduction in profit.

Average annual tax reduction due to rapid amortization of pollution control facilities, just five years -- first 5 years, $1,625,000 per year, and the sixth to 20th year after installation, $534,000 a year.

We are reliably informed that these revised rates of return are quite in line with all of the other taconite producing companies, and the establishment of pollution control facilities would simply bring Reserve into equity with the others, while at the same time stopping its pollution.

However, the on-land disposal plan, developed by Bechtel Corporation, Proposal No. 6, coarse tailings, rail-hauled to Lax Lake area all year and fine tailings carried by pumped-pipeline, appears to be technically feasible. If modified by the additional factors previously suggested, would cut the above per ton cost almost in half, from $1.25 to less than 65¢. Bechtel Corporation's study showed an overall cost of pellets of 45¢ per ton for this on-land disposal method, to which we are adding 20¢ for land acquisition, interest, cost inflation, and additional equipment omitted from but which should have been included in the Bechtel study. This 65¢ is roughly 5 percent of the market value ($12.80 a ton) of taconite pellets -- about on target for a generally accepted rule of thumb proportion of control costs to value of product.

Similarly, the capital investment for this Bechtel method would be about $44 million, plus land, additional equipment, etc., mentioned above -- slightly more than half the estimate by Trygve Hoff & Company in Proposal 2. Thus, under Proposal No. 6, Reserve could continue to make a fair profit of between $11 million and $15 million a year while stopping all tailings disposal into Lake Superior.

There are several other financial factors highly favorable to Reserve which place it in a far better position to absorb its pollution control obligation:

a. The company has had 15 years of operation during which production cost savings without waste treatment have totaled from $50 million to $100 million, depending on the method of tailings disposal used.

b. The plant investment has been largely depreciated over its 15 years of operation so that it has cash reserves available for meeting its public and environmental responsibilities.

c. At the time the plant was being planned, and for 10 years of operation there was no assurance of reduced State taxation. Since the 1964 Minnesota State Taconite Amendment gave an additional tax break, Reserve had an extra tax saving with which to meet the costs of pollution control.

d. Finally, it is of interest to note that an estimate of the costs for closing down the Reserve operation -- $82 million this is calculated -- is in excess of the cost of installing the most expensive pollution control facilities.

To suggest, as some have, that the Silver Bay plant would have to close down thereby frightening citizens of that town is simply not fair.

Even with these figures it is not clear why Reserve has opposed so consistently any effort to install a really effective system of control. Its profit level would merely be reduced from an excessive rate of return to an average for the industry. It is clear that it can well afford to absorb the costs of any of several on-land methods for disposing of its taconite tailings. Furthermore, while profits return to the absentee Ohio company would drop somewhat, jobs and payrolls in Northern Minnesota would increase, not decrease.

Our conclusions and recommendations: In this paper, Save Lake Superior Association and the Northern Environmental Council and our 32 member -- other member organizations, we have not shown even the most costly of the several on-land disposal plans prepared for Reserve Mining Company by consultants are well within the financial capability of the company to install. We have also examined alternative tailings disposal methods which are much to be preferred over the plan Reserve presented in January. We have found enough inconsistencies and overestimates in several of those proposals and omissions in others, including those which appear to have the most merit for controlling taconite tailings pollution, to warrant independent scrutiny and evaluation by competent public-interest-oriented specialists before a final decision is made.

While we have briefly evaluated on-land disposal methods which can and will work effectively, we have been unable in the time available to carry out the full-scale, hard analysis of cost and design details that is needed for a final plan. Although we have been fortunate in obtaining sound advice and careful analysis from competent specialists who risked economic retaliation if their efforts were known, modestly financed voluntary citizen groups should not be expected to carry a function into fine detail which properly belongs to the public agencies, supported by taxpayers and polluting organizations.

Accordingly, we recommend this conference -- to be specific, you conferees, State and Federal -- engage the ablest civil engineer, university faculty and Federal Agency professionals available to reexamine these proposals, including our own, cost them out, choose the most effective and efficient system, and issue an order to Reserve to design and begin construction within specified time limits. Such an analysis designed to construction specifications should take less than 3 months. Construction could be completed in 24 months.

The 3 years initially allowed by the Interior report of December 1968 are now 3/4 gone, and Reserve Mining Company is still stalling for time. As long as the initiative is in Reserve's hands there will be continued political wire pulling, manipulated studies by kept scientists, drummed-up litigation, court challenges, and misleading public relations propaganda. The funds spent by Reserve for these purposes not only insure continuance of the extraordinarily high profits derived from polluting the lake but an infinite number of conferences. It is now clear to you conferees that direct action to redirect this misallocation of funds, effort, and time into an investment for saving our last relatively clean Great Lake is here and now.

We have had quite enough of conferences, the time for decisive action is here. Weak political compromises and legal maneuvering are no longer acceptable. The spotlight of the whole Nation is turned on the outcome of your deliberations. Lake Superior is in many ways an historical test of our Nation's will to clean up environmental pollution. What could be a more fitting climax to Earth Week than for this conference to deal, decisively with one of the Nation's outstanding corporate polluters?

MR. DOMINICK: I would like to say that this is one of the most competent and constructive presentations that has ever been made to this conference. I am going to study this presentation personally. I am sure other conferees will. I would like to ask several questions at this point. You say the Silver Bay plant is reputed to be the most profitable in the taconite industry, largely due to savings resulting from dumping of its wastes into Lake Superior. Is there any further information that you can provide the conferees on the costs of pollution control attributed to similar operations?

MR. STODDARD: We have gotten this informally from accounting firms, but we haven't made a detailed cost analysis. This is just beyond the resources of our limited organization. But as I say, certified public accountants have indicated this to be the case.

MR. DOMINICK: Well, if you have any further comparisons other than what you have stated here, I would be most happy to receive those personally.

MR. STODDARD: We'll try to get them.

MR. MERRITT: Fine.

You say, "Pro forma funds available for pollution control now being paid to ARMCO and Republic, 3-year average, $2.19 per ton of pellets produced." Is that -- what do you mean by item No. 3 on Page 10?

MR. STODDARD: The term "pro forma" means that this is calculated from the data. It doesn't appear that this term -- this figure does not appear in the actual financial statements of the company. But it has been interpreted from the actual figures and statements of the company. I have the report here from Touche Ross if you would care to look at it.

MR. DOMINICK: I would appreciate receiving a copy of the Touche Ross report for the record.

MR. STODDARD: We'll submit it.*

MR. DOMINICK: On No. 3, what you are saying is if this represents a profit to the parent company, that this profit could be the source of some reinvestment for pollution control purposes?

MR. STODDARD: Precisely. This is exactly the situation. It was calculated for the State of Minnesota by Touche Ross at the court trial and given as part of the public record. And the term "pro forma" here is -- had to be calculated because there is no market price for a captive company. They don't sell on the open market, so they had to take their price of taconite pellets and use that as a base figure for their calculations, you see?

MR. DOMINICK: I understand that.

MR. STODDARD: Because when the company takes it in they take it in at cost.

MR. DOMINICK: I think the problem of trying to do an audit on a captive company of this sort is a very significant one, and I think you have done a very fair and equitable job here.

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*Touche Ross Report appended

Did Touche Ross calculate those figures on item No. 3?

MR. STODDARD: Yes. All this data is drawn from their report.

MR. DOMINICK: Fine. Other questions from the conferees?

MR. MERRITT: Mr. Chairman. Mr. Stoddard, I am very interested in the conclusion and recommendation on Page 13, where in effect you are recommending that the conference engage engineers to within 3 months come up with a feasible and effective system of on-land disposal and then order Reserve to begin construction and complete the design. I believe that in Mr. Bryson's statement this morning, it was pointed out that historically the conferences have always looked to the polluter or the discharger to come in with the plan of abatement or to do the engineering. It seems to me this would be a very significant and highly important change in the procedure, is that correct?

MR. STODDARD: That is right. We are suggesting that. Basically what you have here and you have in most situations is trying to get by with the least and the cheapest method. This is one of the reasons we have got so much pollution in this country we leave it up to the polluter to take the initiative. Reserve in its own interest naturally would select the cheapest plan. This is what thay have done -- or practically the cheapest one -- and it doesn't control the problem.

The problem -- incidentally, this morning, Mr. Merritt, as pointed out by Mr. Frida, he said something about the fact that to use a medical analogy, saying the patient's illness hadn't been diagnosed and as a result surgery couldn't be prescribed. I don't know how much diagnosis, after six conferences, seven weeks of court trials, and an infinite number of studies and reports, is needed on this patient? However, the basic problem -- we have got two problems in our antipollution laws: 1) does the full question of the burden of proof have to be put on the government, meanwhile the polluter can keep on going; 2) after this exhaustive process the polluter is allowed to come up with his own formula. Now, this is partly in the law -- the first part is in the law. The second part is, if you gentlemen on the conference will pardon my observation, thereis some homework here in looking at these studies. Some of them are very competent and capable that Reserve had made -- the Touche Ross data -- they are all available. If you had made your own analysis, I think you could set up the criteria that would have said how you wanted it. Instead you have been delaying for time.

MR. MERRITT: What you seem to be suggesting, Mr. Stoddard, is that we have become the doctor up here and choose the formula. Now, I am wondering whether you are saying we should use tax funds and hire private consultants and engineers or mix? I gather you would choose some kind of mix, but would it be proper for the conference or the Federal and State Governments represented here at this conference session to hire consultants from private industry and come up with an impartial study?

MR. STODDARD: Well, to carry this medical analogy a little farther, doctor --

DR. ANDERSEN: If I may be permitted, I think you're suggesting socialized medicine.

MR. STODDARD: No, I'm not. Well, maybe Medicare but not socialized medicine.

The situation has been here that the patient has prescribed the remedy, and what we are saying is that maybe there is some professional help needed in prescribing the remedy -- that the consultants, the professional consultants set forth the criteria and the standards and the guidelines and then the company go ahead and do its construction and its own engineering, but within the guidelines of the criteria and specifications. And there is a good deal of complement for that available.

MR. DOMINICK: Any further questions?

MR. STEIN: Yes, I have one. You know, we have had all these medical analogies here. I hope the doctors are not referring to a --

MR. STODDARD: My father was a doctor, so I know some of the lingo here.

MR. STEIN: Now, I realize that in your position, Chuck, you have given us an honest report, but I don't know how anonymous we have to be. On the bottom of Page 13, you say "... 3 years initially allowed by the Interior report of December 1968 are now 3/4 of the year gone...."

MR. STODDARD: Three-quarters of the time gone.

MR. STEIN: Three-quarters of the time gone. That doesn't have to be an anonymous report, does it? Whose report is that?

MR. STODDARD: That is the report of 5 Agencies, documented with all of the Interior Regional Directors.

MR. STEIN: Is there a name associated with that report?

MR. STODDARD: Well --

MR. STEIN: Is there a name associated with that report?

MR. STODDARD: There has been through popular use but not through any bylines or copywriting.

MR. DOMINICK: Will the gentleman please stand up? We are very happy to have you here. Very happy to have you appear before this conference and make a very excellent statement.

Any questions for Mr. Stoddard?

MR. McDONALD: Mr. Chairman, I would like to ask a question. On Page 10, Mr. Stoddard, you indicate that taking the most expensive proposal of Reserve in disposing the tailings near the taconite mine, and then analyzing the rate of return by Reserve on the basis of capital and operating expenses --

MR. STODDARD: Yes.

MR. McDONALD: -- you say in the first paragraph on Page 11, "We are reliably informed that these revised rates of return are quite in line with all of the other taconite producing companies, and the establishment of pollution control facilities would simply bring Reserve into equity with the others, while at the same time, stopping its pollution." The thing that I am interested in is do you have those comparative figures here that you could --

MR. STODDARD: No. The Chairman, Mr. Dominick, asked me the same question, and I said we did not have them. We have taken the word of competent CPA's who have gone into this. We have the report from Touche & Ross here on this specific case, and I am submitting that. We indicated that we could obtain some comparative figures or see that they are obtained by an accountant's analysis. But I have this report here which I will make available to you. It is the only one we have.

MR. McDONALD: Above and beyond --

MR. STODDARD: The Minnesota State Agency has copies of it.

MR. McDONALD: Above and beyond Touche & Ross, is there something else where you were reliably informed that you could present --

MR. STODDARD: Except we have had the word, the spoken word --

VOICE: Can't hear you.

MR. STODDARD: I say we have had the spoken word of competent accountants, certified public accountants, who are familiar with the taconite mining industry, who have indicated that these are reasonably comparable financial figures. Now, we will support these figures with some -- I mean this information that we have received by word, with data, to show that this is in line. Basically these other companies have to face this cost. They all do.

MR. McDONALD: You're right, and I think your point is very important.

MR. FRANGOS: Mr. Chairman, I would like to express my appreciation to Mr. Stoddard's group for I think its informative and helpful report. I have one question on the technical side. Chuck, on Page 7 you talk about some improvements over the basic technical design.

MR. STODDARD: Yes.

MR. FRANGOS: And you see some need for improvements as it relates to, and I'll just quote here the last part of it, if I may, "for return of purified water to Lake Superior." Do I gather then your analysis leads you to the conclusion or position that you would be opposed to any return of the overflow of water back to the lake even if it is purified by a purified means?

MR. STODDARD: Not if purified, no. There would only be certain seasons of the year where there would be surplus water and this would be necessary.

MR. FRANGOS: Well, I just wanted to clear that, because at least going through this the first time, it appeared to me that there was an objection to the return of any flows back to the lake. But so then I gather it might be conceivable that they could provide -- the company could provide treatment that would permit a return of flow?

MR. STODDARD: Purified water. In fact, some people suggested that -- that all water be charged for and that if the company can return to the city the returned water in the same state as it took it, then they could use it at no charge. This is another idea that has been advanced. This doesn't have anything to do with this, except there would be no objection to returning clear water back to the lake.

MR. FRANGOS: Just a comment that I have. That has to do with your suggestion of analysis by some sponsors from qualified conference of the proposals. One, I am not sure what criteria you might use as to who has to and who is not breaking this problem. But beyond that, it would seem to me that the fundamental approach ought to be that this conference would follow, I think, the statute and that we would set performance requirements on a polluter, be it Reserve or anyone else. I think the burden is on the discharger to meet and perform the standards that are laid down by the conference, and I would hope that this is where we might get to at this session, so that we would also respond I think to the problem that Mr. Fride raised earlier today about the position of the company.

MR. STODDARD: I don't think we're far apart on this, but what we feel is that if you, yourself, would lay out the criteria, the specifications and the end results that you want, and Mr. Fride has indicated the company is more than willing to go into a plan of treatment that would be satisfactory, this way, why, we'd be able to find out whether this would actually take place.

MR. DOMINICK: Further questions or comments?

Thank you very much, Mr. Stoddard.

MR. STODDARD: Thank you, Mr. Chairman and conferees.

MR. MERRITT: Mr. Chairman, I have two changes on the agenda for the remaining appearances by Minnesota citizens and private groups. First of all, Mr. Larry Dickinson has informed me he wishes to withdraw his appearance. Secondly, I neglected to mention that we have had a request from the Mayor of Silver Bay. I certainly did not mean to omit him or overlook him. Mayor Scheuring, and the Mayor of the city of Silver Bay.

HONORABLE FRANK H. SCHEURING

MAYOR, SILVER BAY, MINNESOTA

MAYOR SCHEURING: Mr. Chairman, conferees, ladies and gentlemen, before I get too deeply into this, I would like to clarify one thing for the conferees. During the morning break and at lunch hour, I heard several comments that were made about Silver Bay having their own cheering section. Well, these people are concerned about this whole issue and they are here on their own behalf, not on behalf of Reserve Mining. (Applause.)

For the past several years, Reserve Mining Company and Silver Bay, by association, have been considered by many as the major source of pollution of Lake Superior. This committee is again faced with a decision that can and will affect not only a small group of people in Silver Bay but a large surrounding area, and will certainly be establishing some precedence for future conferences of this nature.

We have continually urged past conferences and again urge this conference to arrive at a decision that is based upon scientific fact as opposed to public opinion. I have stated on many occasions that I have the utmost confidence in the integrity of each conferee and feel reasonably certain you will arrive at a decision that is fair and equitable to all.

Through experience as Mayor of Silver Bay, I am fully aware that the factual decision is not always the most popular one. In the past several years, I have probably heard or read of several hundred solutions to this problem into the controversy over Lake Superior -- or Reserve Mining Company and their use of Lake Superior. Many of these were issued by experts whom I suspect were only seeking to further their own personal ambition through the use of an issue that only recently became so controversial and newsworthy. Among these experts we find Senators, Governors, special interest groups, and in some cases the man on the street. We have been exposed to such people as Mr. Nader, who recently enlightened the public by suggesting that common courtesy by an industry towards public officials bordered on cardinal sin. How many of us are guilty of seeing to the comfort and welfare of visiting dignitaries? I must be honest, ladies and gentlemen, I am. I have sought to improve the image of the Village of Silver Bay by doing this very same thing, and by doing it long before we achieved notoriety as allegedly polluting Lake Superior.

The present Director of the Minnesota Pollution Control Agency has adamantly held to the position of zero discharge of tailings into Lake Superior. In the administration of the office of Mayor I am not permitted this type of philosophy. If I were to approach a problem on this basis, I would be quickly branded as exhibiting "zero-mindedness" and justifiably so. I would suggest further that if public officials were granted this type of power, it would dangerously approach that of a dictatorship that our people cannot and will not accept.

The controversy of the alleged pollution of Lake Superior by Reserve Mining Company has even reached the proportions where some people are suggesting that the greatest Congressman the Eighth District has ever had has fallen down on the job, and I refer to Congressman John Blatnik. For the past 15 years or so, he has almost single-handedly led the fight for protection of our environment, and I am certain he is still leading us to a proper decision now. I am sure the only difference is his desire to consider the welfare of some 4,500 people, instead of ignoring this problem in the manner that has become synonymous with the trade wind experts.

Ladies and gentlemen, I too am concerned about the welfare of the residents of my community and their continued employment by this industry, and I am talking about the janitors, the truck drivers, the steel workers, and right down the line. These people want and need their jobs. They deserve the right to provide for their families and to plan for their retirement in the future, and they deserve the right to have that future decided on scientific fact instead of unfounded fact or political innuendo --

VOICE: Tell it the way it is.

MAYOR SCHEURING: -- that can only be described as political lynch psychology on the part of those who have made promises. On behalf of the people of Silver Bay, let me assure this conference that if serious, harmful pollution were proven to us, we would be equally as vociferous in opposition to it.

As directed by past conferences, Reserve Mining Company has submitted alternate proposals. After reading the entire volume of transcripts from past conferences, we can find very little evidence to substantiate that serious, harmful pollution is resulting from the Reserve Mining Company operation at Silver Bay, Minnesota. If we are to agree that the alleged nuisance pollution is sufficient basis for modification of this industry, so vital to the economy of Northeastern Minnesota, can we not also agree that the most recent proposal to eliminate this nuisance be acceptable?

Prior to the last conference, two Governors stated they would be opposed to anything but on-land disposal, and yet neither of these gentlemen found it convenient to suggest that we might be destroying a vast area of scenic beauty. Some years ago, the people in Wales experienced the tragedy of having a large amount of waste sliding down from the hills and envelop one of their communities, causing unnecessary loss of life. Would this not be a possibility inspite of all man-made precautions?

I think we must seek out the only answer that will permit us to survive on the middle ground where man lives compatibly with nature and is also able to provide for his family. By no means do I suggest that we relax our efforts to make our environment one that is more suitable and desirable for future generations.

In closing, let me again suggest that we reach a factual decision instead of the decision most popular in the eyes of the public. We feel most sincerely that the recent proposal presented by Reserve Mining Company does qualify them for admittance to the middle ground area, and that it will permit all of us to live with the thought that we have not only contributed to the welfare of mankind but more important to the protection of our environment.

Thank you very much.

MR. DOMINICK: Thank you very much, Mr. Mayor.

Are there any questions?

MR. MERRITT: Mr. Chairman, I will next call on Mr. Gene

Roach, our President of the United Steel Workers of America at Silver Bay.

Mr. Roach.

EUGENE ROACH

PRESIDENT, UNITED STEEL WORKERS OF AMERICA

LOCAL UNION 5296

SILVER BAY, MINNESOTA

MR. ROACH: Mr. Chairman, conferees, ladies and gentlemen, my name is Gene Roach. I have a terrible cold. I am President of the United Steel Workers Local Union 5296 at Silver Bay.

I have been employed at Reserve Mining Company for over 15 years. This is my home and I have no intention of moving out. And if I may I would like to comment on the Save Lake Superior presentation. It is presentations like this that have disturbed the people in Silver Bay so much, when they come up here and bring out the fact that there is 67,000 tons of tailings going in. He said it was 67,000 tons of sewage. Well, you know what people think of when they think of sewage. If the sewage of Silver Bay isn't too bad, because the next guy got up and said they use it for water purification in other places.

Now, let me explain why so many of the employees at Reserve Mining Company feel this way. In the past, it has been relatively silent. We have been relatively silent on the issue. It has been our feeling that if taconite tailings were harmful to Lake Superior, that we would have enough sense of fairness and devotion to posterity to move out and find other jobs, even though it meant giving up our homes and a good portion of our lives.

Let me remind you that to give up your home in Silver

Bay or Babbitt is not like selling your home in Duluth, the Twin Cities or any other place that has average population or job opportunities. These towns are 1-industry towns in remote areas. If Reserve shuts down, you couldn't give your house away, let alone sell it.

Many of our people have attained special skills in operating departments, skills which are peculiar to the plant at Silver Bay. These same skills if Reserve was to shut down would be absolutely worthless as far as obtaining gainful employment somewhere else.

Now that I have given you a little insight into the problem we face let us look at some of the history of Reserve as related to Lake Superior. In 1947, after thorough study, permits were issued to Reserve from the Minnesota Pollution Control Commission and the Minnesota Department of Conservation. In addition, the Wisconsin Water Pollution Control Commission indicated no objection to the project, as did the U. S. Fish & Wild Life Service and the Isaak Walton League. Again in 1960, after review of the permit, Reserve was again given a clean bill of health by the State of Minnesota. Late in 1967, rumblings of pollution of Lake Superior by Reserve's tailings were heard. And as I stated before, many of the employees of Reserve took the "wait and see" attitude in an effort to see if there was any truth in the allegations that tailings were harmful to the lake. Prior to 1967, Reserve spent in the area of $5 million to build and equip a research and development complex to improve their pellets in an effort to stay competitive with other taconite companies.

E. Roach

It has been my observation in the past 3½ years that there has been a minimum of research on taconite and that this laboratory has been turned into one of the most well equipped water research labs in the U. S. Several times I have sat at these conferences and heard Reserve make commitments to the conferees that the data they had collected and their equipment was available to any authorized agency concerned with the water quality of Lake Superior. This means to me that Reserve feels they have nothing to hide.

After almost 3 years of haggling in this type of conference, Reserve and Minnesota PCA met in court, where, for the first time, politics and fantasy were swept out of the way to leave room for facts. I would like to read several excerpts from the court proceedings and a decision handed down by Judge Eckman on December 15, 1970.

Dr. Robert Barr, Chief Executive Officer of the Minnesota Board of Health, stated under oath, "My opinion is that the discharge has had no effect whatsoever on the lake, for consumption of water in any of the places where we find communities that are taking water from Lake Superior, we found no evidence there that tailings had any effect whatsoever."

Dr. Mount stated, "The first and very crude preliminary biopsies say that we did in which we put fish in 100 percent effluent, and they seemed to be happy for several weeks was quite an eye opener to me and made me realize that this discharge did not have the same toxicity as the dischargers that we normally use or work with, and so as we were not able to find toxicity for some of the concentrations of metals that should have been toxic, my position changed considerably and I began to wonder if there was any effects at all."

Judge Eckman concluded, "This court feels that the time has come to brush aside all legal technicalities and procedures that may impede a resolution of these questions without further delay by taking the problem out of the public and political arena into the court for a full and comprehensive judicial review, for the interests of both the public and industry can be fully explored and protected. Probably no other trial --" Again, says Judge Eckman -- "no other trial in the history of this State has produced a more impressive array of scientists and experts expounding on their particular field of expertise. With few exceptions, each had degrees showing years of education, series of publications and memberships on national and international committees and government committees, together with years of experience in their respective fields of ecology and limnology, including chemistry, bacteriology, biology, etc., sociology, economics and cost accounting."

After all this, we find ourselves back to this conference, with the facts of a court decision seemingly having no effect. What I would like to know is whether or not 15,000 people -- and this is the amount that I estimate that are living off Reserve -- mean anything and can we can expect a decision based on fact as stated by men in science in the field of ecology, or is it going to be settled by politics? I think the people of Silver Bay and Babbitt deserve something better than to be used as pawns in the political arena.

Thank you.

MR. MERRITT: Thank you very much, Mr. Roach

MR. DOMINICK: Thank you, Mr. Roach.

MR. MERRITT: I now call on Mr. Eldon Kirsch, the President -- or the Staff Representative of the U. S. Steel Workers.

ELDON KIRSCH

STAFF REPRESENTATIVE, UNITED STEEL WORKERS

OF AMERICA

VIRGINIA, MINNESOTA

MR. KIRSCH: Mr. Chairman, conferees, ladies and gentlement, my name is Eldon Kirsch. I live in Virginia, Minnesota. I am the Staff Representative for the United Steel Workers of America. I am presently servicing Iron Ore Local Unions across the entire Mesabi Iron Range. Let me make it clear to everyone that the United Steel Workers of America does not agree to pollution, be it air, noise or water. But as United Steel Workers of America we do say, don't shut down properties just on the mere assumption of pollution or because certain individuals for political reasons or because of the scare of ecology they feel it is the thing to do. It is the position of the United Steel Workers of America that if and when it is definitely and positively proven that taconite tailings are causing pollution in Lake Superior, that it then and only then will be stopped. And we as steel workers -- and we as steel workers will cooperate in making the necessary corrections.

I would like to point out to this conference that when you are talking about Reserve Mining Company that you are not only talking about jobs in Silver Bay. The following are just a few towns that be vastly affected. Two Harbors, Beaver Bay, Silver Bay, Finland, Little Marais, Babbitt, Embarrass, Ely and many others.

These mentioned towns have a considerable number of men living in them who make their living with Reserve Mining Company.

Therefore, we feel that it would be very unwise and selfish to shut down Reserve Mining on the mere assumption of pollution or for political reasons or just to satisfy a few that want to say they are responsible for stopping Reserve Mining from dumping taconite tailings in Lake Superior, be it pollution or not.

Mr. Chairman, if I could have the privilege to add a few remarks. I heard a gentleman here before talk and recite figures that Reserve and ARMCO and Republic are very well-off companies. I am glad to hear this. As steel workers we all want our companies to make money. The more money they make the more money we are going to get.

Now, I think it is only fair that -- or I say it is not fair for certain individuals to go around and say that we think they are polluting, let's make them spend millions of dollars just to take away the fear they are polluting. I would suggest to this conference that it makes a lot more sense, if they've got some extra money, we will find it, and let's put it in the area of education; let's put it in the area of roads, recreation, taxes. We can put it to good use. I don't think we should waste -- have Reserve waste money on something that hasn't been proven and just to keep some people satisfied.

Thank you, Mr. Chairman.

MR. DOMINICK: Mr. Kirsch, I would like to respond to your remarks and the remarks of several of the previous speakers.

Are the microphones working in the back? Can you hear?

The purpose of this conference, indeed the purpose of the pollution control laws that have been passed by the United States Congress and have been passed by the State of Minnesota and other States of which we are dealing here is not to bring us into a confrontation on whether we will have jobs or whether we will have pollution. The purpose of those laws is to insure that we protect our environment and protect it in such a way that we will have a decent and a beautiful place to live for ourselves, our children and our children's children. Without a decent environment, without a protection of our air and our water, jobs by themselves will become fairly meaningless. But the issue here today in this conference does not strike at the heart of the continued operations of the Reserve Mining Company, nor at the heart of the continued prosperity of the communities that are represented in this beautiful land of Northern Minnesota. The issue here is to develop a plan that is technically feasible, that is economically feasible, and that is environmentally sound, and we intend to do that. We do not intend to be distracted by cries of alarm about future possibilities of plant closings and whatnot. I am not at all convinced that that is the issue here. I am not at all convinced that we cannot come up with acceptable technical solutions to a pollution problem and come up with them in a reasonable period of time. That is our job today.

Thank you.

MR. KIRSCH: Mr. Chairman, I would like to respond.

MR. DOMINICK: Yes, certainly.

E. Kirsch

MR. KIRSCH: As United Steel Workers of America, we resent -- if I understand your remarks right, we as United Steel Workers of America have never, and I repeat never have put in the lines these jobs and pollution. I think if you understand our position correctly, we say if you prove your pollution, we will help you take care of the pollution problem. And I'll say one more thing, the United Steel Workers of America have been in a forefront against air and noise and water pollution. I think Johnny-Come-Lately should be striken out and saying that we are trying to put the fear of people on jobs or pollution. This is not correct.

MR. DOMINICK: Any further comments or questions from the conferees?

MR. FRANGOS: Yes, Mr. Chairman.

MR. DOMINICK: Yes.

MR. FRANGOS: I would just like to ask Mr. Kirsch what area or what extent of the U. S. Steel Workers that he represents.

MR. KIRSCH: I am International Representative. I work at times the entire District of 33, which encompasses Minnesota, Michigan -- part of Michigan and part of Wisconsin. I have said this before. I presently service Iron Ore Locals across the Iron Range, and this goes all the way from the Stevens Mine in Aurora to the mines at Coleraine

MR. FRANGOS: Thank you, Mr. Kirsch.

MR. MERRITT: Mr. Chairman, that completes the citizen groups from Minnesota, unless there is someone else from Minnesota that I don't have on my list.

MR. DOMINICK: Any further citizens or groups from the State of Minnesota that would like to present a statement to this conference?

All right. Let's turn to the State of Wisconsin.

MR. FRANGOS: Mr. Chairman, we have a representative from Students for Saving Lake Superior that would like to speak for a few moments, please.

While the representative is coming up, again, are there any other people from Wisconsin who would like to say anything? If you would please come forward here, please.

VOICE: On behalf of all the students for Saving Lake Superior --

MR. STEIN: Can we have your name?

VOICE: -- we'd like to present to the Minnesota Mining Reserve this award.

MR. DOMINICK: May we have your name, please? Identify yourself.

RYAN NELSON: Ryan Nelson from Ashland High School.

On behalf of the Wisconsin Resource Conservation Council we would like to present this polluter award to the Reserve Mining Company, Silver Bay, Minnesota, in recognition of the outstanding contribution of such massive pollution by a single industry -- 67,000 tons of waste each day are dumped into Lake Superior, which is 1/12 of the world's freshwater.

Thank you very much.

MR. DOMINICK: Thank you very much.

MR. FRANGOS: I will make one more call. There was some indication that a representative from the Wisconsin

Sector of the Northern Environmental Council wished to make a statement.

Oh, all right. Fine.

IRENE BURCHARD

VICE-CHAIRMAN, WISCONSIN SECTOR

THE NORTHERN ENVIRONMENTAL COUNCIL

**MISS BURCHARD:** My name is Irene Burchard. I am Vice-Chairman of the Northern Environmental Council and I am a member of the League of Women Voters of Superior. I am not speaking for the League of Women Voters, but I represent -- I'll say that through that organization, I have come to study water pollution and air pollution. I feel I have some background--

VOICE: Can't hear you.

**MISS BURCHARD:** I feel I have some background on what constitutes water pollution because of the studies that I have made as a member of the League.

I have no prepared statement to hand to the conferees. Rather, I was in the audience listening to the last three speakers -- the Mayor of Silver Bay and the gentleman who represented United States Steel Workers.

There are two comments that I feel should be made to supplement the Northern Environmental Council's report to this conference. No. 1, it was stated in our report -- and I will make this explicitly clear to you -- that it is not the feeling of the Northern Environmental Council, the member organizations of the Council, that includes SLCA, nor do I believe -- and I'm speaking for myself here, too -- that it is the feeling of the Governors and the executive branches of the States of Minnesota, Wisconsin or

Michigan to shut Reserve Mining down. If you listen to our figures in the report, presented by the three people who gave this report, there would be 112 jobs created just in the operation alone of an on-shore disposal plant. This does not even touch on the number of people who would be employed in the very building of such a treatment plant. This has also been documented in the Bechtel report of Reserve Mining -- asked for by the Reserve Mining.

One other comment that was made that I would like to make as a supplement to Northern Environmental Council's report, and it is my feeling, and I believe this Council's feeling, that the last three speakers have employed those tactics discussed in our paper; namely, scare tactics and gross misrepresentation of the facts.

That is basically what I have, just to give you something supplementary. It is not in our written record but as a supplement to our testimony.

MR. DOMINICK: Any questions or comments?

Thank you so much.

MISS BURCHARD: You are welcome.

MR. FRANGOS: I think that completes statements from Wisconsin, Mr. Chairman.

MR. DOMINICK: How about the State of Michigan?

MR. FROST: Mr. Chairman, I have not received any requests from anybody from Michigan.

MR. DOMINICK: Is there anyone here from the State of Michigan that would like to make a statement? Any other persons in the audience who are not from those 3 great States that would like to make a statement?

Well, Mr. Fride, the Attorney for Reserve Mining Company, has asked to present some additional information in response to the technical and economic subjects that were presented by Mr. Stoddard. I think that would be helpful to the conferees to get all the facts on the table.

Mr. Fride, would you like to make that presentation?

MR. FRIDE: Thank you, Mr. Commissioner, conferees, for premitting me the opportunity to make a few comments here with respect to the presentations which have been made through the conference subsequent to --

VOICE: Can't hear you.

MR. FRIDE: Can you hear me now? The microphone isn't working.

MR. DOMINICK: Can we check out the microphone at the podium, please?

MR. FRIDE: Thank you, Mr. Commissioner and conferees, for the opportunity to make a few comments with respect to speakers who have succeeded me on the podium.

I think that it should be obvious to all of us that the Commissioner asked a very important and pertinent question when he asked the speaker for the Northern Environmental Council what his background, education and training was, because I think it is always a fair question when people purport to deliver opinions, when they purport to express the viewpoints of others, to ascertain whether or not they are qualified in that particular field. I believe the answer was -- I think it is perhaps true of both the speakers who addressed themselves on behalf of the Northern Environmental Council -- that they are both foresters. I think it is perhaps up to the conferees to weigh and judge what was said in the light of whatever expertise that particular occupation enjoys in the field which is hardly related to forestry. Both of these speakers purported to address themselves to some very significant and important engineering and economic concepts. Both of them referred to anonymous sources. Both of them referred to opinions which they held. And I don't for a moment suggest they are not entitled to opinions, but I do suggest that the weight to be accorded those opinions is something of significance.

MR. DOMINICK: May I speak to that, Mr. Fride? I think it is important that people identify themselves when they speak to any public forum, including a conference of this sort, and identify their qualifications and background. However, I do not in any way discredit the material which was presented to us by the Council or its representatives by virtue of the background of those gentlemen being foresters. As a matter of fact, I think if we had a few more interested citizens with backgrounds of this sort, we would have a much greater sense of perspective and a longrange solution to many of our environmental problems. I think it is important that we identify as clearly as possible for the record the source of information which is being used and information which will form the basis for some very important decisions -- decisions not only affecting investment of large amounts of capital for individual companies but affecting our environment as well. I stand four-square with you on that point. I will say, however, that in this area of pollution control, one of the most difficult problems facing the Government is to obtain expert witnesses; to obtain expert technical advice that has not in some way been associated with the private sector -- the sector that is being regulated. This does not in any way cast any doubt upon the credibility, the good faith, or the integrity of the parties involved. But let me just say that it is difficult to obtain expert testimony because the private sector in the past has been able to purchase the services, the good faith services, the intelligent services, the services filled with integrity of most of the experts in the field. If we can get testimony from additional experts and if they can identify themselves, so much the better. But in the absence of that, I am certainly willing to listen to any information that is presented to this conference.

Additionally, I would say that I would hope that the Council would return to its work and if it has available to it any audit information, any information with respect to the financial capability or the investment for pollution control purposes of other companies in a similar situation, it would make this available to the conference. I think this would be most helpful information, and I believe that Mr. Stoddard indicated he would do so. So I think we are not far apart, except for my pointing out that in this field of environmental control, oftentimes one must accept testimony and evaluate that on very careful grounds, irrespective of the willingness of the people to identify themselves with that testimony.

MR. FRIDE: Mr. Commissioner, I'm sure -- I'm sure, Mr. Commissioner, that you don't mean to imply that the Federal establishment is without its share of very responsible, talented, able and educated scientists and ecologists. I am sure that the Federal establishment has within its various Departments people versed on many scientific subjects. I think that during the trial in Lake County that has been referred to, we saw the product of, I believe, some 12 or 13 very distinguished Federal scientists who testified, and I am sure that they spoke with respect to their particular field of interest and expertise and education and background. And I think it is with that as a background that the decision of the court perhaps might have even more significance than if it had, for example, only been exposed to people who were expressing personal opinions, not necessarily predicated on any responsible research.

MR. DOMINICK: I won't interrupt again, Mr. Fride, other than to say yes the Federal Government is very proud of its capability in certain scientific fields. But the Federal Government at no time presents itself as the fountain of all wisdom. We certainly wish to receive from all our citizens -- our citizens in the area, our citizens that have taken it upon themselves the task of developing very significant information -- their opinions and their documentation and their data. It is in that spirit that I received the information of the Council with the very strong sense of welcome.

Now, I promise not to interrupt again. Go ahead.

MR. FRIDE: I don't mean to belabor the point, Mr. Commissioner, but I think that not only does the Federal establishment have a number of very dedicated and able scientists but so too does the Minnesota Pollution Control Agency, and I am sure that the Wisconsin and Michigan agencies. So when it is pictured that somehow one can't find competent experts to respond to a particular situation, I think that in the private sector there are hosts of competent people. And certainly that is true of the regulatory bodies also.

I am reminded, in the light of your comments, Mr. Commissioner, of your letter of November 25, 1969, when you said with reference to the learned speaker who preceded me here, Mr. Stoddard, "This report was never distributed, so we have reproduced a copy from our file. I would like to stress, however, that this summer (the so-called 'Stoddard report') was not released as an official Department of the Interior publication because of technical questions and because the report was superceded by the Lake Superior Enforcement Conference which made a more authoritative review of the matter. We have, of course, been reluctant to distribute a preliminary report that we could not fully defend technically. . . .

"Prior to full evaluation by the agencies involved, Mr. Charles Stoddard, then Interior Regional Coordinator in the area, sent a copy of the summary report to the Corps of Engineers. At the same time the Federal Water Pollution Control Administration was following up on its earlier studies in preparing for a comprehensive conference on the water quality problems of Lake Superior that would cover Reserve Mining Company, among other dischargers,this agency was also in communication with the Corps of Engineers on preparations for the conference.

Thus, the Stoddard report was sent to the Corps without having first been evaluated technically by Federal Water Pollution Control Administration scientists in Washington. When the summary was reviewed by the technical staff of this agency, there was concern that certain findings and recommendations might not be fully supported in all respects by a critical scrutiny of the data accumulated by our field personnel." And I suggest, Mr. Commissioner, that the truth of your statements to them has been adequately demonstrated and supported by almost all of the people who have come in contact with it from both the Federal and State establishment.

I would suggest too that we have had during the course of this conference proceedings, a certain amount of consistency. I think Mr. Stoddard has been consistent. I think Mr. Merritt has been consistent. I think that it is interesting to note that we first had the Stoddard report when the State of Minnesota, the Minnesota Department of Conservation, the Minnesota Pollution Control Agency, and a host of other qualified people raised substantial questions about it. It was in fact rejected and, as a matter-of-fact, had never been accepted in the first instance. But be that as it may, I think that we -- I am trying to turn rapidly to a number of subjects, because a number of subjects have been covered here and a number of statements made which I think fairness dictates be put in their proper perspective. For example, the present Director of the Minnesota Pollution Control Agency read, with some relish, a letter which Governor Anderson had addressed to Lieutenant General Clarke. I can understand the relish, because I believe he was the author. I think it is important to note when we have -- and I only say this because of its importance -- when we have allegations here that the people demand something, the people demand something, I don't know really that the Director is qualified to express an opinion on behalf of all the people of this State. It is pretty obvious that his most immediate connection, the Minnesota Pollution Control Agency, as of last Monday unanimously suggested that any statements that might be made today in this vein were not made with the approval of the agency. And I might suggest further that when we delve into this just a little bit, we have some interesting background to the letter that the Governor did address to General Clarke.

I would like to make as a part of the record of these proceedings, in view of the reference to the letter, a memorandum on the letterhead of the Northern Environmental Council, dated February 21, 1971, signed by Mr. Stoddard, addressed to Mr. Merritt, because rather than the will of the people, we may have a rather consistent political situation. The letter reads, I quote, "Grant: After you left, I looked over the enclosed new regulations of the Corps, the 1899 Refuse Act. I have marked three sections dealing with State certification. You will need them to prepare the Governor's letter to Clarke."

Now, I think we have had a great controversy sparked by one individual, and I think we have now had it embraced by the present Director. But I seriously would have some question whether it reflects necessarily the will of the people of this State. I might say, incidentally, that that memorandum was not obtained by any surreptitious means but rather was responsive to a subpoena which I caused to be served upon Mr. Merritt. And interestingly enough -- interestingly enough, as part of the sworn testimony which followed the issuance of that subpoena, a person who stands before this audience and this conference, purporting to speak with competence in the field of ecology, disclaimed any possible knowledge or education in any of the fields which are related to the question of what effect if any does a particular discharge have on land or air or water. As a matter of fact, it wasn't until yesterday that for the first time in his long career of attacking Reserve Mining Company that he bothered to even come to Reserve Mining Company.

Let's turn for just a moment to another subject -- economics. Economics, I think, as I am sure the conferees are aware, is a very important aspect of any kind of inquiry. The Congress in enacting the legislation under which this conference convenes said that if and when the matter reaches the Federal Court, the Federal Court is to consider the practicability, the physical and economic feasibility of securing abatement of any pollution and enter an order enforcing the judgment as the public interest and equities of the case requires. If it wasn't so serious, you know, one would be tempted sometimes when you hear these statements that somebody can do something for "X" dollars and there is no problem and there is plenty of money, one would almost be tempted to suggest that the President stand up and write him out a check for that amount. Because if you think after all the study and inquiring that Reserve Mining Company and the Nation's leading consultants have done that it is possible economically to do some of the things that have been expressed here as a concept, then I suggest, gentlemen, you are mistaken.

The reference was made, and apparently Mr. Stoddard considers himself an economist also. The reference was made to a survey or a so-called CPA's statement in the District Court of Lake County. Well, gentlemen, I was there. I cross-examined that accountant, and by the very, very simple device of forgetting that Reserve Mining Company and its shareholders were solemnly obligated to repay $150 million, he comes up with a profit figure which is completely untrue and unrealistic. Now, the Court in its wisdom wouldn't let that accountant testify to some of the things that Mr. Stoddard refers to, because we do have some rules, and we do have some foundation kinds of requirements. What was accepted during that trial -- and we permitted scrutiny of Reserve Mining Company's financial records -- what was admitted during that trial was a 3-year compilation of profits for Reserve Mining Company, which averaged, gentlemen, from 1967 to 1969 $1.58 per ton. We did demonstrate that on an investment of some $350 million, the return on that investment is 4.41 percent. Now, that is hardly anything that you could not get and better by going to any local bank. And so the concept that somehow this company can afford anything that a nonengineer reporting on what some anonymous engineer says, I think is really without foundation.

I would suggest too that on the technical feasibility, the only on-land tailings deposition plans, programs, engineering studies which have been presented to this conference have been presented by or through the auspices of Reserve Mining Company.

E. Fride

There has been a great deal of reference to the Bureau of Mines. Those of you who were on the Technical Committee know the irritation, the dismay that was expressed by representatives of the Bureau of Mines to the Technical Committee as to the misuse and abuse of their report which has been made. At no time were they trying to indicate a study designed to put tailings on-land and to consider all of the aspects of it. They specifically disclaimed that in their report if those who seek to misuse it would have the courtesy to refer to it. The Bureau of Mines, if anybody has any question about any of the cost figures the Reserve Mining Company has utilized, we invite, indeed request, appropriate evaluation by some competent bureau, so that we don't have any illusions about what is so simple to do, as reported by some anonymous engineers.

I suggest too that there is only one plan in effect which has any technical feasibility, and I don't say economic feasibility, and that is the one Trygve Hoff reported. It is No. 1 in the publication that has been presented -- the back of engineering studies that have been presented. And let me remind you that the capital cost involved in that particular proposal was $195,183,000. And that did not include land acquisition, preparation of basin, financing, distribution, pumping equipment, roads, and a lot of other things. And in addition, the added operating cost of such a system was $27,284,000 a year. Now, this company has an expected life, hopefully, of 40 years. Now you just do some simple multiplication of those two items and you are going to come out to an excess of a billion dollars over the 40-year life of this company. If you take and divide it by the number of tons at a 10,000,000-ton rate per year, you will end up with a figure of something like an added cost of $2.50 per ton. Now, when you take a company with a profit $1.58 a ton and super-impose a $2.50 additional charge, I don't think it is going to take much imagination to recognize where that leads.

I would suggest too that there has been a few references here -- unsupported - that Reserve Mining Company has enjoyed some competitive advantage of this iron mining taconite industry. Nothing could be further from the truth. The suggestion has been made they have enjoyed economic advantage because they use Lake Superior. I am not going to burden you with the recitation of all the reasons why this company if it was going to operate at all and before it became the cornerstone of this great taconite industry that we have had -- the cornerstone of it was obviously that they needed water. They didn't have at the mine site like other companies a source of the kind of water that was necessary, the amount of water, and they didn't have at the mine site an available area for tailings deposition. Those two things, despite all the wishes to the contrary, made it a prerequisite that this company transports over 47-mile railroad 3 tons of material for every ton of finished product, unlike -- unlike, I suggest, all of the other mining operations, who because of the availability of water and the availability of a tailings basin in their vicinity do not have to do so.

I would suggest further that the company is at a substantial economic disadvantage because of the very quality of its taconite pellets. I suggest that anyone examining the scientific records kept would indicate that of some 35 producers of taconite pellets that Reserve's quality, unfortunately, is pretty close to the bottom, and, unfortunately, further that kind of thing gets translated into action. As of April 12 of this year, the company had to announce that due to a decreased demand for Reserve's pellets in the steel industry, it is necessary that Reserve reduce its pellet production beginning May 2, 1971. At present, we anticipate the production for the year 1971 will be reduced by approximately 10 percent as compared with 1970. This production decrease results in job reductions and some temporary layoffs. We hope the reduction would not be of long duration, but that depends, of course, on general business conditions and the demand for Reserve pellets by the steel industry. And mind you, this is at a time when the steel industry in this country is engaged in substantial hedge buying because of the possible consequences of a disruption of work due to negotiations of collective bargaining agreements this year. So I think we have to come face to face with some hard facts here. And it is particularly difficult for this company to be faced with these kinds of statements when, in the first instance, the balance of all of the testimony has been that this company's use of Lake Superior is not causing any damage to the ecology.

I was interested in the award and felt it strange that some students from Wisconsin should bring to the attention of this conference. And I think it perhaps is symptomatic of much of what has gone on during this entire proceedings. Because when they refer to the Wisconsin Department of Natural Resources, if they would take the time to look at one of the most recent scientific publications of that Department dealing with the water quality and condition of Lake Superior in 1971, they would have found this: A concentrated effort was also made to determine if taconite tailings discharged by Reserve Mining Company at Silver Bay, Minnesota, were present within Wisconsin boundaries of Lake Superior, and the answer to that research was no evidence was found to indicate the presence of taconite tailings in Wisconsin waters. That is only part of the story. The real story is, has any harm occurred -- whether it is determined to be chalcopyrite, taconite or whatever? And the conclusion reached in Wisconsin was that pollution is extremely difficult to demonstrate for any extent in the open water of Lake Superior and was shown to occur only in the immediate vicinity of waste discharges, and this was after examination of Reserve. Deleterious effects can only be demonstrated in localized areas near Superior, Fiber Products, DuPont and American Can, and notably missing from that list is Reserve Mining Company.

I think that the reference, of course, to the fact that taconite has been approved as a filter medium for wastewater treatment was not designed to demonstrate that there is a substantial market for taconite tailings, but rather -- and I'm sure obvious to all of us -- was designed to indicate that the tailings are of such constituents that they may be properly used and encouraged to be used in wastewater treatment systems. So if there were any dilatory substance connected with the tailings, you certainly wouldn't want to encourage its use in such systems.

Now, I am going to turn in a moment, if I may, Mr. Commissioner, to a more technical appraisal of some of the concepts that have been raised here. I feel quite inadequate to respond to much of what has been said, because it is a little bit like fighting with the wind. There is no report that we can look at. There is no engineer who can come forward and say something. All we have is political overtones of long-held opinions that somehow conceptually it is better to put tailings on land than it is to put them in the water. And I ask you seriously-minded gentlemen what proof do you have of the validity of such a concept? How did it gain such credence? I suppose we were a little bit with the press releases and all left feeling a little bit uncertain because we were told that Mr. Stoddard was going to present an engineering report. It is interesting to note that the young speaker that preceded him contented himself with faulting a number of the consultants of Reserve on such minute details as whether the thickness of the pipe was the same in all estimates. I hardly think a very persuasive kind of indictment But then ends up embracing the self-same engineering consultant in suggesting that some proposal No. 6 be the one to be utilized. I don't think that speaks of an engineering and an independent study conducted by and through the auspices of the Council. I would suggest that No. 6, as is reported in the detailed writings that have been submitted on this conference, is technically not feasible. And I would like to call on Mr. Haley to discuss this situation, as well as the so-called Lax Lake area, so that we might have in the consideration that the conferees want to give, at least Reserve's observations and reactions to the so-called technical possibility of some of these other concepts.

MR. DOMINICK: Mr. Fride, may I ask, how long do you except to be discussing some of these technical and economic questions?

MR. FRIDE: Depending upon the number of questions, I would suggest perhaps another 15 or 20 minutes.

MR. DOMINICK: And how many witnesses do you plan to bring forward?

MR. FRIDE: I think just one at this point in time. We have tried, Mr. Commissioner -- and I know that you were at the 1st Session back in May of 1969 -- we have tried our level best to bring to the conference technically qualified people who have, and as a part of the record, submitted their reports, and have been available for questions and expressed their viewpoints. And I don't think, perhaps, it would be appropriate for us at this time to belabor many of those points, because I am sure the conferees have them in the form of the record. So I just had in mind calling Mr. Haley at this time, who is Vice-President and Manager of Research and Development at Reserve.

MR. DOMINICK: That would be fine. Before you do, I would like to ask you with respect to some of your recent testimony and very excellently presented testimony -- I have not had an opportunity to personally review the records of the suit before the State Court which has been referred to a number of times here. I have not had an opportunity to review the financial data that apparently was presented to that Court, and that if I understand your testimony correctly, in some instances challenged, perhaps on procedural grounds. But I would like to know if you would be willing to make available to the Federal

Government, your financial records which would give us the necessary information upon which to make some of these technical and economic feasibility findings?

MR. FRIDE: We would be happy to present, Mr. Commissioner, to the conferees the data and exhibits that were presented to the District Court and which I think adequately reflect the financial posture. And I think that perhaps, as you have already indicated, Mr. Commissioner, when you addressed yourself to Mr. Stoddard that you would like to have, and the other conferees would like to have, the benefit of the data that was submitted by the accountant who was employed by the Minnesota Pollution Control Agency. I think those two sources will provide you with appropriate data and information in that connection.

MR. DOMINICK: Very fine. We would like to continue to make requests of you with respect to financial data, and I am sure that you will honor those requests. I want to compliment you on your art of discovery. I would hope that we would not have to go through such discovery proceedings with respect to some of this data which we are now discussing.

Would you go ahead then with Mr. Haley?

MR. FRIDE: Thank you very much, Mr. Commissioner. Mr. Haley

MR. DOMINICK: Mr. Haley, it's been called to my attention that the reporter has been on the stand here for a very long period of time. Can we take a 15-minute break and be right back at the end of the 15 minutes?

(Whereupon, a short recess was taken.)

MR. DOMINICK: May we reconvene, please, conferees, ladies and gentlemen.

We'll hear now from Mr. Haley.

K. HALEY, VICE-PRESIDENT
RESERVE MINING COMPANY
MANAGER, RESEARCH & DEVELOPMENT DIVISION
SILVER BAY, MINNESOTA

MR. HALEY: Mr. Chairman, gentlemen, audience, my name is Kenneth Haley.

MR. DOMINICK: Just a moment, Mr. Haley. May we ask that the audience come in from the outer halls and please sit down. We intend to hear from Mr. Haley for 15 minutes on substantive issues, and I invite your attention to his remarks. Thank you.

MR. HALEY: My name is Kenneth Haley. I am Vice-President of Reserve Mining Company, Manager of Research and Development Division. I am going to make a few comments summarizing some items on on-land tailings disposal, comparing them to our proposed plan. Also I will make a few comments on some of the matters that have been presented here by others this afternoon, even though we have not had an opportunity to review their reports.

Any on-land tailings disposal method that is available to Reserve will present a very serious blowing dust problem. A sizeable portion of any tailings basin of necessity will be above waterline or dry or partially dry a good part of the year. Thus, fine tailings from the air, borne by wind and dust clouds, will be carried over large areas adjacent to such a tailings basin. This would be a very serious nuisance to many residents and tourists of the North Shore area. Tailings deposited as an underwater reef would be in contact with the neutral to slightly basic waters of Lake Superior. Thus, practically no elements would be in solution. In contrast, leaching tests of waters of the area available to Reserve to deposit tailings on land show that elements could be leached from many tailings deposited there. These dissolved solids that are leached from tailings would enter the Beaver River and thus flow into Lake Superior.

After Reserve's mine is exhausted, surface waters would continue to erode on any on-land tailings deposit until it would finally be washed into Lake Superior. However, if tailings are deposited in a deep underwater reef, natural sediments cover the deposit and thus isolate it from the balance of the lake in a very few years after the cessation of the operation. The fact that the tailings were deposited in a controlled manner to fulfill the comparatively small area of the very deep portion of the lake up to a depth of 150 feet, would have been the only effect.

The on-land area available to Reserve are prime hunting, fishing, recreation and resort country. Seasonal and year-round houses would be covered by tailings in the area available to Reserve for on-land tailings disposal. The principal area available for Reserve for tailings disposal has the drainage from 71 square miles of watershed. The flow would exceed Reserve's process requirements, so excess water contained unsettled, very fine tailings from the basin would be released to streams that then flow into Lake Superior. Much of the year these tailings would enter Lake Superior at the surface without the benefit of the heavy density currents. These fine particles would likely remain at the surface waters of the lake and be carried by surface currents and dispursed over wide areas of the lake before they settled naturally. The water from within these tailings basins and the water adjacent to the tailings dam would leach elements for Reserve's tailings. These waters would enter the ground water of the area and carry these increased dissolved solids into the groundwater system. The same type of thickening system would thicken the tailings slurry for pumping to the impoundment area as would be used for pumping the tailings to an underwater reef. The same type and amount of flocculents would be used to thicken the overflow and would be handled in the same manner through Reserve's harbor. Thus, any objection raised with respect to the use of flocculents in Reserve's plan would apply also to these on-land tailings disposal basins.

A tailings basin built in the rugged terrain of the North Shore region would involve a huge system of dams and dikes, one of the largest in the world, and would represent a constant threat of leaks and rupture, thus residents of the North Shore area would be exposed to this serious safety hazard.

Most on-land tailings disposal systems in use by other taconite operators have some alternate means of discharging tailings in the event of emergencies. However, the only emergency discharge of tailings available to Reserve would be to Lake Superior.

A number of people have suggested that Reserve tailings be hauled in Reserve's railroad in the empty cars and to the region of Babbitt Mine. They assume that simply because the hopper cars, which haul the taconite to Silver Bay, return to Babbitt empty, they would be able to carry tailings back to the Range. However, important factors are overlooked. Babbitt is approximately 47-rail miles from Silver Bay and more than 700 feet higher in elevation, and one section of the railroad is more than 900 feet higher than the Silver Bay car dump location. Thus, the loaded cars proceed downgrade from Babbitt and the empties return upgrade. Therefore, only about 1/3 as many loaded cars could be hauled from Silver Bay back to Babbitt with the same horsepower. Thus, much additional equipment would be required to haul tailings from Silver Bay to Babbitt.

Several proposals of on-land deposit of tailings involve hauling coarse tailings containing 18 percent to 20 percent moisture. This presents serious wintertime freezing problems of these wet materials in transit. Several concepts have been suggested to avoid these freezing problems: 1) electrically heated insulated railroad cars, and 2) thawing sheds at the point of our dumping. Both of these concepts would require extensive pilot testing over at least 3 winters before the implementation could be considered. To avoid these winter freezing problems, it has been suggested that a portion of the tailings that would be from 18 to 20 percent moisture would be stockpiled during the winter months adjacent to the Silver Bay plant, then transported to the disposal area during the summer months only. The building of these stockpiles would be very critical. Otherwise, they would freeze solid during the winter months and it would be improbable that they could thaw enough during the summer months for them to be reclaimed. Any such practice would require large-scale testing before it could be considered.

Incomplete capital costs for these on-land tailings, disposal schemes range from $44 million to $195 million. Annual expenditure for on-land tailings disposal proposals range from $8 million to $27 million. Few, if any, of the objections to Reserve's present or proposed disposal methods would be relieved. Construction time for these on-land tailings disposal facilities would range from 5 to 6 years. As noted in Reserve's report, the underwater reef disposal system would be operational within 2 years after approval of the appropriate regulatory agencies.

The subject of these remarks were previously contained in the summary attached and the statement presented earlier My Mr. Fride.

A few remarks on the comments here by Mr. Niss and others. In addition -- one of my duties, in addition to my other assignments, was to be Chairman of the Engineering Task Force. It gathered together the engineering concerns to develop these various modifications or tailings-disposal methods. When we employed these engineers, engineering firms, we endeavored to give them the problem, give them as much freedom as we possibly could, keep them informed as to what other engineers were doing and have them come up with what they considered to be good engineering solutions. Naturally if you have two groups of engineers working on somewhat simultaneious problems, for example, a location of a dam, width of a dam, etc., they are not going to come up with exactly the same dimensions. So, obviously, there is going to be some mild discrepencies in the volumes involved. The same way with routing any pipelines for various purposes. So the fact that there are these type of discrepencies in preliminary engineering reports only indicates more that these people did truly independent studies. And if there are any errors, if there is anything erroneous in the Engineering Task Force reports that were reported to this group during detailed engineering, these various points and considerations of the several engineering firms would be matched against each other to final decisions made as to the exact location of pipelines, dams, etc., etc., and the details would then be brought down to a finite figure.

As to the wear of various pipes, in one Trygve Hoff case, Trygve Hoff was pumping actually the total tailings back to the Lax Lake area. Bechtel was only pumping half of the tailings to the Lax Lake area. Naturally Trygve Hoff would report an estimated greater pipe wear if they are pumping much more material at a different size. And due to the different size concept they held a different density was required. So these types of things are I think of no importance to this type of a preliminary report.

As far as the availability of the area in the Lax Lake region, which they selected as Bechtel Report No. 6 as being their prime consideration that within 40 years to elevation 1,260, I believe they picked that right out of Bechtel's report. In one of their tables or chart of volumes, they do show that at elevation of 1,260, which would be the elevation of the water and tailings in the basin, that would be the elevation at 40 years later. They also show in the same chart the elevation, the minimum elevation of the dam for this containment, and that gives an elevation at 1,285. At either of these elevations Lax Lake itself is completely dammed off and is isolated from the balance of the valley, so it is -- could not flow anyway, except through this particular tailings dam, tailings basin. Due to the way that Bechtel handled the fact that there is so much water coming from this 71 square miles of drainage, they did not use minimum embankments, they used higher than minimum embankments, so they could then discharge an average of 60,000 gallons a minute of water back to the plant area, where it would be purified and discharged into Lake Superior at the plant site as the excess water in total from both the thickeners and from the tailings basins. And I think that is rather well spelled out in this report that was given to you back in April of last year and was revised and brought up to date in August of last year.

These clarifiers that they intended to use for handling the water in this manner, they did anticipate that they would use various whiteners and flocculents to clarify this water down to the maximum possible clarity before its being discharged into Lake Superior. The seasonal and flash flood area, particularly the flash flood areas, they did allow two overflows -- one to Beaver River and an emergency overflow into Palisade Creek -- at elevations that would not cause the major dams to be torn out by flash flood type considerations. These things are all shown I believe in this particular -- in your report. One of the major reasons -- one of the principal reasons that this particular proposal was not considered as being technically feasible at this time was the handling of the 18 percent moisture tailings, which they called their "coarse tailings," during the wintertime. They proposed that one method that we handle these year-round in electrically heated insulated railroad cars. This is an entirely new concept. In discussing this with Bechtel engineers, they did not know of anybody that had used or tried it. They were willing to design such a car and for us to pilot it in there. And, in our opinion, it would take some -- at least 3 winters of piloting before you could develop this type of equipment to the point that you could consider it to be economically usable or technicaly feasible.

The other way they intended to get around this freezing problem in the wintertime was to stack the 18 percent moisture tailings on the delta in the wintertime. And the design of the stacking system that they did design was such that it would have to be tested very thoroughly to be sure that it would not freeze as the material was laid down. Otherwise, they were laying down this 18 to 20 percent moisture material in rather thin layers, and these thin layers of material would freeze, and another thin layer of material would then be put over the frozen material. So at the end of the winter I think you would have probably the world's largest ice cube. I think you would have some difficulty in reclaiming in the summer and transporting to anyplace else for disposal. And these were the prime reasons, other than the reasons I have given in the summary, that this particular concept was not considered by Reserve as being the most favored method of altering their tailings disposal system.

That's all the comments I have.

MR. DOMINICK: Thank you, Mr. Haley.

I would like to ask a specific question of you.

MR. HALEY: Yes, sir.

MR. DOMINICK: Is it the position of the Reserve Mining Company here at this conference today that you are not prepared, and would not be prepared at further sessions of this conference, or in other places, to discuss on-land disposal techniques and to evalute on-land disposal techniques in greater detail and with greater specificity than you have in the past? I refer specifically to the view of the Technical Committee -- that they were unable, with the proposals that have been submitted thus far, to make the necessary judgments as to technical, economic and environmental feasibility because of the lack of specificity, the lack of detail and the lack of clear-cut engineering and economic presentation. Given that inability on the part of the Technical Committee, are you prepared to discuss at greater length, prepared to do further work of your own, to evaluate on-land disposal techniques?

MR. FRIDE: Mr. Commissioner, if I may, I would like to respond in part and let Mr. Haley respond in part, because I think that it goes to some overall kinds of policy consideration in the posture of this company with respect to this conference. I stated, at the outset this morning, that we were looking forward with interest to guidance from the Technical Committee and from the conference, and I don't believe it would be an appropriate reflection of any posture of Reserve Mining Company to indicate that we are either not prepared or unwilling to discuss any kinds of criteria or guidance that might be forthcoming. We are certainly prepared and willing to discuss guidance and criteria that might be forthcoming from this conference, and Mr. Haley can comment further on that. But I do think that your question perhaps casts the company in a light which may not be entirely consistent with the statements that have been made today. I think that, as I understand it, the Technical Committee was established by this conference for the purpose of evaluating Reserve's plan, coming up with any recommendations with respect to it, to consider and recommend any possible modifications of it that would make it acceptable, to evaluate any on-land proposal presented to it, and to come up with recommendations of this conference. Now, the fact of the matter is that although Reserve's proposal is labeled as unacceptable as presented, I don't believe that the Technical Committee report envisions or suggests or presents recommended modifications or guidance or criteria. I suspect that is part of the dialogue that may occur between the representatives of the Technical Committee and this conference. We are perfectly ready and willing, and we hope able, to consider and discuss those kinds of things at this point in time or whenever the conference is ready to provide the guidance that is contemplated by the Technical Committee's report. It is somewhat anonymous if you may just indulge with me for a moment. It is anonymous, if you will, to even denominate this report as a Technical Committee report, because a Technical Committee report presupposes an opportunity for the committee members to engage in an objective evaluation. I am not suggesting that the committee members were unwilling to do so; I am suggesting that the postures taken, political postures, if you will --

MR. DOMINICK: Mr. Fride, I have made it clear to you and to the conferees that we are here to discuss substantive issues, and I do not want to divert the intention of this conference and of the many patient people in the audience to some irrelevant discussion of political positions. I am here to address the substance, to try to get at the heart of the problem and to come up with a solution. Now, my question is, given the fact that the Technical Committee found that the proposals submitted thus far by Reserve Mining Company with respect to alternatives involving disposal of taconite tailings in some manner other than into Lake Superior, insofar as the Technical Committee found those alternatives were not developed with sufficient specificity and precision to allow the Technical Committee to make intelligent, objective engineering judgments with respect to the technical, economic and environmental feasibility of this proposal, I am asking if you are prepared to discuss such proposals and to rework such proposals in greater detail than has been done in the past?

MR. FRIDE: In a word, the answer is yes, Mr. Commissioner, but I hasten to add that I would disagree with the validity of the premise that you have espoused. But to the extent that this conference and the Technical Committee provide Reserve Mining Company with guidance and criteria that they would like to see developed into an engineering concept, certainly we will give consideration to them and do our very best to evaluate them to this Board and the conference.

MR. DOMINICK: Thank you.

Mr. Haley.

MR. HALEY: I believe we gave quite a lengthy report to the Technical Committee; endeavored to answer all the questions that they did ask us; filled out a lengthy form and added comments to it, and, in addition to this, we supported what we did add with documentary evidence that what we were saying were scientific and engineeringwise correct, as far as we could establish their correctness. And I think this certainly indicated that Reserve was very willing to work with this Technical Committee to the greatest extent of our abilities. And I believe we certainly still are in a position of being willing to work with this or any other technical committee to arrive at a scientific, technical solution to this problem.

MR. DOMINICK: Thank you very much, Mr. Haley.

Questions or comments from conferees?

MR. FRANGOS: Mr. Haley, I have several. You put together some information both from the citizen groups and from yourself, Mr. Fride. I have some questions I would like to put to you. But first is with this Lax Lake proposal, the so-called Bechtel proposal. Is there any problem with the availability of space or volume for handling the capacity of tailings that you would generate over a 40-year period in that area?

MR. HALEY: There is no space problem as laid out on the drawing. The only erroneous or mild error, you might say, is that they have assumed that Lax Lake would not be affected. Lax Lake would be definitely affected because at elevation 1,285 is higher than Lax Lake's surface. So, therefore, it would be dammed up, and the only way it would have to flow out of its basin would be through this tailings pond. And, in addition, Bechtel's judgment was not to use minimum embankments because of containment of this water. They used in excess of minimum embankments, and they proposed an embankment to the elevation of 1,300, which is decidedly above Lax Lake surface elevation. So, it definitely would be involved.

MR. FRANGOS: Mr. Fride gave us some economic information earlier and talked about some of the marketing problems that you have, and I thought it brought out an interesting point in terms of the quality of your product and its ability to compete. Do I gather that the point that the company is trying to make here is that if you went to a recirculating system which would indeed reduce the quality level of your -- of the present product that you are making, i.e., although it might be a small reduction in quality, yet it might be critical in terms of your competiveness:

MR. HALEY: To go to a total recirculated water system would give us some minor increases in silica analysis of our concentrate. We have not allowed that to interfere with our consideration. We have made the assumption that we would be able to develop ourselves ways to handle that. To date we have not made those developments. We are working on them in our research organization and anticipate they will be forthcoming.

MR. FRANGOS: So you don't see that as an overriding problem?

MR. HALEY: If I had to answer yes or no today I would say definitely it would be a problem.

MR. FRANGOS: But you are optimistic, I gather?

MR. HALEY: Yes, sir.

MR. FRANGOS: Then let me ask you this about a total enclosed system. Based on the research and studies that you have done, can the company go to a total reuse system in any of the proposals that you have analyzed that relate to onshore disposal? The question I am asking, again if we ignore the economics and some of the technical problems which you say are very important, can we get to a system that will result in no overflow -- from no overflow?

MR. HALEY: No. the answer to your question as far as onland is no, because of the enormous amount of water that is flowing down the slopes of the land sloping towards Silver Bay where these tailings basins would have to be. And secondly, I think is the fact that we would, if we went to a totally enclosed system -- we now have our powerplant and our mineral beneficiation system on the same water system -- we would have a tremendous temperature buildup from our powerplant so that we would not be able to operate. So we would have to put in a separate water system for our powerplant similar to the other powerplants along the shores of Lake Superior. This could be done and could be considered. We have an additional problem that due to the fact we have to haul our ore from Babbitt to Silver Bay some 47 miles in extreme cold weather, we have a freezing problem with that ore in the wintertime, for which the only solution we have found to date has been to use calcium chloride in small amounts to prevent freezing of the fines in the cars to keep the cars from dumping at Silver Bay. If we went to a totally closed-water system, this calcium chloride would build up in the water system and would cause us operational problems, particularly in our pelletising plant, which would essentially retard our operation, unless we could find some way of getting rid of this calcium chloride -- this particular calcium buildup in our water system -- which we would have to dispose of during the extremely cold weather in some manner to remain in business.

MR. FRANGOS: Well, I think -- isn't that common to any closed recycling system? Whatever the industry you are bound to get some buildup and you have got to periodically provide for some relief with that buildup. But beyond that, normally this is still considered to be normal in terms of the total water use. Now --

MR. HALEY: This --

MR. FRANGOS: Is this possible or does this become a major factor in your particular instance?

MR. HALEY: I don't think this would be a major problem. I think that there could be, for example, in the proposal we designed -- which was a preliminary engineering proposal -- that with some modifications, we could find ways and means that could separate the powerplant from the balance of the system and have a separate water consideration for that and go to a closed water system in the summertime and in the milder portions of the wintertime and use an open or partly-open water system in the extreme cold weather. And we would be having a very high percent of closed-water system which would be a very good system for everybody involved.

MR. FRANGOS: Thank you, Mr. Haley.

MR. DOMINICK: Other questions?

MR. MERRITT: Mr. Chairman.

MR. DOMINICK: Yes.

MR. MERRITT: Mr. Haley, in your studies, have you or any other representatives of Reserve Mining Company visited the other operations by various other taconite companies in Minnesota, such as Erie Mining at Hoyt Lakes and U. S. Steel at Minn-tac or Mountain Iron, to observe their closed-water systems and their tailings basins?

MR. HALEY: Yes, we have. We have -- I personally haven't visited all of them. People in research and development have visited all of them on a number of occasions. We have the information about them which we have obtained from these visits. We have kept files on the various publications that have been put out on these in engineering and mining journals and the I & E reports to each other, and I believe that we have quite comprehensive information on the scientific aspects of these disposal systems.

MR. MERRITT: Thank you.

MR. DOMINICK: Any other questions?

Mr. Haley, with respect to Proposal No. 6, the below Lax Lake proposal, have you evaluated a means for handling the normal flows of surface water to the Lax Lake area in the event that area was utilized as a depository for tailings?

MR. HALEY: That has been evaluated by both Bechtel and Trygve Hoff, and our engineering group have verified their particular calculations and areas, etc., and criteria that they have separately come up with. And they both come up that there will be more runoff water with the most extensive diversion engineeringly possible than we would be able to use as process water.

MR. DOMINICK: But it would be feasible, clearly feasible, to devise some diversionary system to handle that surface water?

MR. HALEY: Of the 71 square miles, the best system that has been devised to date has been to divert I believe some 40, 41 square miles of it out of the basin. The basin itself, which would contain some number -- some 20-some square miles, and the balance of it we would not be able to divert.

MR. DOMINICK: But that which you could divert would be sufficient for the purpose of preventing interference by the surface water with a depository site?

MR. HALEY: That is what I just referred to -- that diverting the maximum amount that we have had engineered has indicated that diverting this maximum amount would not divert sufficient amount, that we would still have more water flowing through this system -- this area than we could return to the plant as processed water. So we would end up with some 7,000 to 10,000 gallons a minute surplus water, and we would have to dispose of it in some other manner -- diverting to the streams or doing something else with it.

MR. DOMINICK: And you have not fully evaluated what that something else would be?

MR. HALEY: The only thing we can see is the two proposals of several schemes that we have come up with. One is, as Trygve Hoff has done, is to enter the tailings into the basin in such a manner that you have a deep still pool at one end of it which you can then divert that water into the creek in as low as possible turbidity. And the other is what Bechtel did, is to make no effort to divert it, but build your banks high enough to contain your -- hopefully contain your largest runoff and bring these pipes -- the 60,000 -- 60-some thousand gallons a minute back down to the plant and treat it and put it in Lake Superior.

MR. DOMINICK: That is feasible?

MR. HALEY: That would be done, yes. But it would still have the objections that you people have been raising about putting flocculents in Lake Superior and all these types of things.

MR. DOMINICK: But that could be further examined?

MR. HALEY: That could be further studied.

MR. DOMINICK: Yes, all right.

What about the question that has been raised here several times about the hazard of large tailings depositories breaking loose and presenting some landslide hazard to inhabitants? What is the substance of those concerned?

MR. HALEY: Well, the -- I think the mean level of Lake Superior is about elevation 600. I think the mean level of the village of Silver Bay is somewhere about 660, 680. We are talking about having a dam -- at the base of it -- would be an elevation of 1,100, approximately 5 or 6 miles uphill from this village, with not only the village but other subsequent houses and populated areas in the area. There would be ultimately a dam. It would be over 2 miles wide and over 200 feet high. And anytime you have a water embankment of this magnitude -- this would be probably one of the largest earthen dams in the world. There would be another dam that would be over a mile long and something like 260, 270 feet high that would be in a position that a portion of this may spill down over another valley and in part go through the Village of Silver Bay and part go down the Beaver River and into Beaver Bay. And these are the things that you do the best possible engineering job that you can to get the most stable embankments that are possible to build. But they are still and always will be a hazard.

MR. DOMINICK: But we are talking here about the construction of large dams. We are not talking here about placing materials in an uncontained fashion such as I understand was done with the coal slag trials in Wales . Would you agree that the analogy between this and the tragedy that occurred in the British Isles recently is stretching it quite a ways?

MR. HALEY: I am not too familiar with the British Isles point. I did -- I have read several articles about it. As I understand it, it was the piling of dry materials on a hillside on which there was a water flow down this partiuclar hillside. And at the time of the failure, as I understand it, there was considerable more water flow down the hillside than what had been anticipated. And, therefore, where this had been going on for sometime with no problem, at this time there was a slide that caused this catastrophy. If there should be -- if the engineer should not judge properly spillways or the height the dam is required, the stability of the dams, and there should be an excessive flash flood in this area, the analogy could be very real.

MR. DOMINICK: But you do agree that we are talking about two very different kinds of disposal techniques and two very different kinds of materials involved?

MR. HALEY: We are talking about two different types of techniques. We are talking in Wales of a comparatively small quantity compared -- in small heights of piles compared to what we are talking about here.

MR. DOMINICK: Very well. You do agree that our civil engineers who have been building dams around the world for many years in all liklihood could come up with a system which could stand very intense scrutiny and which in all liklihood would be safe for the types of ponds that you are talking about?

MR. HALEY: I think that if Reserve did build these dams, they would certainly do the best engineering job possible to insure their safety.

MR. DOMINICK: Yes. Thank you.

Any other questions?

MR. McDONALD: I have a question on the economics. I don't know if you are prepared to answer that or not, Mr. Haley, but there has been concern expressed since the origin of these, and today much concern has been expressed by the representatives of the Union, by the Mayor of Silver Bay, and by others, that the possibility of on-land disposal by Reserve could result in closing of the plant. Has there ever been a statement or an analysis by Reserve on the basis of plans that they have rejected for on-land disposal that such expenditures by Reserve could or would result in the closing of the Reserve plant?

MR. FRIDE: Perhaps I can address myself to that question. Is the inquiry whether a specific statement has been made by Reserve that given a certain plan, the plant would close? Is that the question, Mr. McDonald?

MR. McDONALD: Well, to perhaps rephrase it this way. There has been much concern by many parties about the possibility of Reserve closing. In my review of the record, I have seen nothing that Reserve itself has ever advanced about the possibility of their closing if they have to go to on-land disposal.

MR. FRIDE: Well, you are perfectly correct in your review of the record. There has not been any flat statement by Reserve Mining Company that given a particular circumstance they would close the plant. Reserve Mining Company has not engaged in what some people have referred to as some sort of "scare tactics." But I think as rational people we have to recognize that people are in business, employ people to try and make a profit. And if you would follow through on the analogy that I drew for you; and if you would follow through on the facts, for example, that I gave to this conference; if you got to a point where the adoption of a particular plan, and it may be true of a number of them, results in an additional cost of $2.50 per ton of pellets and your profit is $1.50 on a ton of pellets -- it doesn't take any great crystal ball to recognize the operators of such an operation would perhaps consider and look elsewhere for their raw material.

MR. McDONALD: Again I bring that up, Mr. Fride, because I think that there is no conferee here that has shown any interest in closing Reserve. There has been a lot of concern expressed by people through the years that this might happen. And, again, I appreciate your clarification that Reserve has never made this statement because certainly the Federal Government has not made this statement of interest in seeing Reserve closed.

MR. FRIDE: Well, I appreciate that, Mr. McDonald, and I appreciate that Mr. Merritt has addressed himself to that statement on a number of occasions. But, again, I think we have to do a little bit more than be content with rater blase' generalizations. And, for example, I can recall just last Monday when the members of the Minnesota Pollution Control Agency were addressing themselves on the question. Well, the answer came back, "We don't want to close the plant. We don't really care what they do. They can pick up the whole operation in Silver Bay and move to Babbitt. They can take the whole thing and do thus and so with it." Well, that may have some appeal from a simplicity standpoint, but it just isn't going to happen. This plant cannot be physically picked up and moved to Babbitt. It can't be

-- you couldn't build another plant. This one was built at a cost of $350 million and in today's marketplace you couldn't build another plant for anythig close to that. And so the economics, I think -- I don't think we have to indulge in complete flat out statements. The facts of the matter will speak for themselves.

MR. McDONALD: Thank you.

MR. DOMINICK: Further questions?

MR. FRANGOS: Mr. Chairman, I just would like to check the source of a figure that was offered by the Northern Environmental Council, and that has to do with closure, which I think was $82 million. I am just interested to know whether -- were those estimates made by your company or were those perhaps estimates of others?

MR. FRIDE: I am sorry, Mr. Frangos, I didn't get the question.

MR. FRANGOS: Yeah. There was some information about a closing figure, closing down the Reserve operation. This was put forward in the Northern Environmental Council presentation, and they had a figure of $82 million, and I am just wondering whether -- do you know whether that source was from analysis made by the Reserve Mining Company or perhaps from other source?

MR. FRIDE: My best answer that I can give to you on that is that the figure did not come from Reserve Mining Company. And what I was trying to refer to, without taking too much time with the conferees, was that the figures that were used I think by the accountant who testified at the Lake County case were the subject or a completely impossible and erroneous premise. And I think that once you adopt an erroneous premise the figure that flows from it is subject to very substantial question.

MR. FRANGOS: I just wanted to know the source of that data.

MR. FRIDE: It was not Reserve Mining Company, sir.

MR. DOMINICK: Thank you very much, Mr. Fride and Mr. Haley. You have been very patient witnesses. We appreciate your testimony. We want to compliment you on it.

MR. FRANGOS: Mr. Chairman.

MR. DOMINICK: Yes.

MR. FRANGOS: I am wondering if I could offer a comment here as a followup to the presentation or rebuttal presentation by Reserve? Somewhere in that second presentation Mr. Fride made reference to a publication of the Wisconsin Department of Natural Resources, and I think it would be helpful if I clarified the contents of that document. Perhaps Mr. Fride was misled by the document which bears a 1971 date on the cover, but actually the publication deals with a study that was conducted by our agency back in the summer of 1968. It also -- its scope is limited to Wisconsin waters, and the primary purpose of that investigation was to provide an input to the Interior study which kicked all this business off in 1969. And so the conclusions that were quoted referred only to those very limited studies in that period of time -- 1968. And, of course, there have been substantial studies that were conducted subsequent to that study which, of course, have been more definitive than this one investigation was.

(The above-mentioned document, marked Exhibit 2, is on file at HQ, EPA, and Region V, Chicago, Ill.)

MR. DOMINICK: Thank you, Mr. Frangos. I think we might include that document as an exhibit for the conference so that there is no problem with taking that out of context, and I appreciate your clarification

MR. FRANGOS: We will make this available.

MR. DOMINICK: Mr. Merritt, do you have additional comments or suggestions at this time?

MR. MERRITT: Yes. Mr. Chairman, I do think that the Northern Environmental Council should be given an opportunity to rebut this presentation by Mr. Fride and Mr. Haley, but I am wondering, in view of the hour, if we could adjourn until either 9:00 or 9:30 in the morning? Perhaps start a little early in the morning -- 9:00, if possible. But I think this would take additional time. We probably wouldn't get out of here until after 6:00.

MR. DOMINICK: You indicated earlier that you felt you would like to take about 15 minutes.

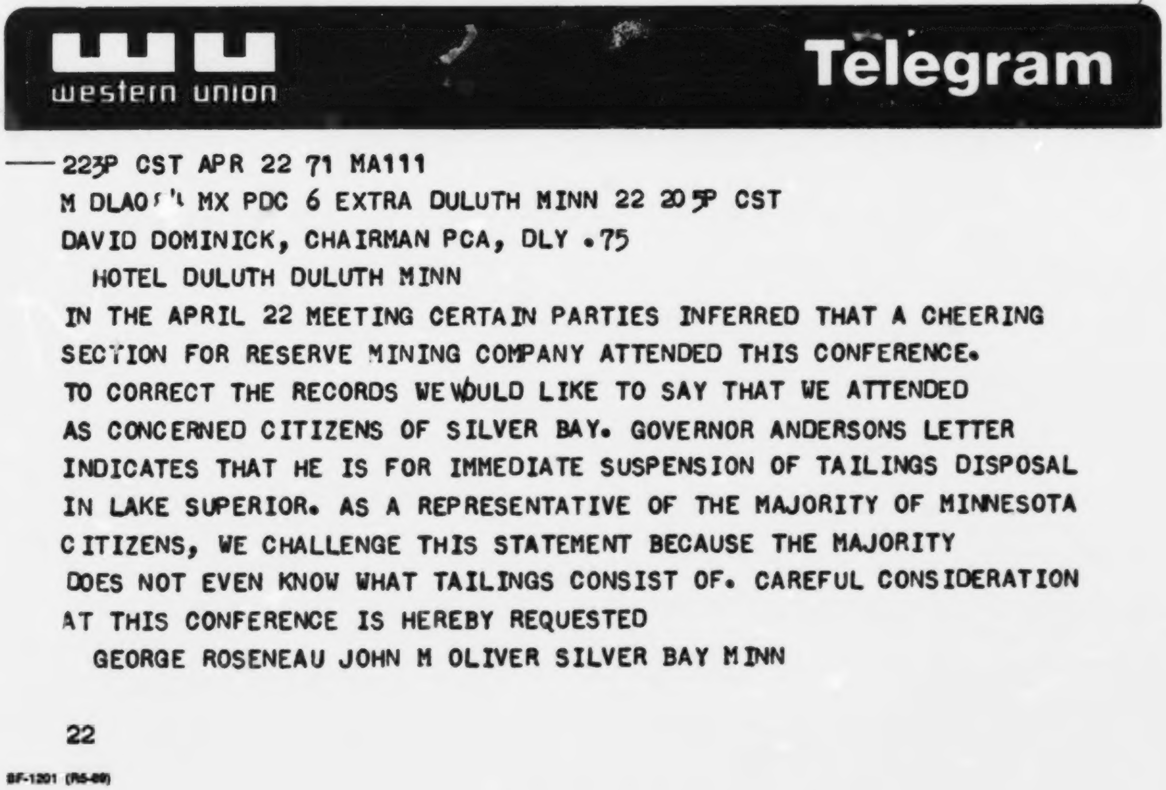
MR. MERRITT: Well, I thought maybe 15, but I am not sure. It might run half an hour. I am willing to go ahead now, but I think it might be better to start in the morning.

MR. DOMINICK: Let me poll the conferees here. I do want to try and get through this one matter today. If the audience will hold for just a moment, we will poll the conferees and see when that presentation should be made.

(Off the record discussion.)

MR. DOMINICK: The consensus of the conferees is that we should proceed and wrap this matter up this evening. I would like to have the Council on. Please confine your remarks to 15 minutes, as we asked of Reserve Mining. If there are additional questions, of course, that will go beyond that time, and that will be the time that all of us will contribute. Will the Council please come forward, and as they do I would like to present to the recorder a number of messages and telegrams and letters that have been presented to the conference, and if you will make those a part of the record, please.

(The above-mentioned communications follow.)



western union

Telegram

223P CST APR 22 71 MA111

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DAVID DOMINICK, CHAIRMAN PCA, DLY .75
HOTEL DULUTH DULUTH MINN

IN THE APRIL 22 MEETING CERTAIN PARTIES INFERRED THAT A CHEERING SECTION FOR RESERVE MINING COMPANY ATTENDED THIS CONFERENCE. TO CORRECT THE RECORDS WE WOULD LIKE TO SAY THAT WE ATTENDED AS CONCERNED CITIZENS OF SILVER BAY. GOVERNOR ANDERSONS LETTER INDICATES THAT HE IS FOR IMMEDIATE SUSPENSION OF TAILINGS DISPOSAL IN LAKE SUPERIOR. AS A REPRESENTATIVE OF THE MAJORITY OF MINNESOTA CITIZENS, WE CHALLENGE THIS STATEMENT BECAUSE THE MAJORITY DOES NOT EVEN KNOW WHAT TAILINGS CONSIST OF. CAREFUL CONSIDERATION AT THIS CONFERENCE IS HEREBY REQUESTED

GEORGE ROSENEAU JOHN M OLIVER SILVER BAY MINN

22

SF-1201 (R5-69)

402 Vivian St.
Houghton, Mich.
49931

Apr. 19, 1971

Conferees
Lake Superior Enforcement Conference
Radisson Duluth Hotel
505 W. Superior St.
Duluth, Minn.

Gentlemen:

I urge you to take immediate action to enforce on-land disposal of taconite tailings from the Reserve Mining Co. It is long overdue.

Yours truly,
(Mrs.) Nancy Canfield

League of Women Voters OF THE COPPER COUNTRY
222 Hubbell Street

HOUGHTON, MICHIGAN 49931
April 19, 1971

Lake Superior Enforcement Conference
Radissin Duluth Hotel
505 West Superior Street
Duluth, Minnesota

Dear Conferees:

The League of Women Voters of the Copper Country continues to support on-land disposal of all taconite tailings from the Reserve Mining Company. Further degradation of Lake Superior will adversely affect the tourist-based economy of an entire region and prevent flushing of pollution from the lower lakes.

We urge immediate action to stop this dumping.

Yours truly,

Mary C. Tidwell
(Mrs. Sam B.)
President

318 Cooper Avenue
Hancock, Michigan
April 17, 1971

Lake Superior Enforcement Conference
Radisson Duluth Hotel
505 West Superior Street
Duluth, Minnesota

Dear Conferees:

Statement of Mrs. Davis Hubbard to the Lake Superior Enforcement Conference, April 22nd and 23rd, 1971

Two years have gone by since the Lake Superior Enforcement Conference first met to deal with the pollution problems caused by the dumping of taconite Tailings from the Reserve

Mining Company into Lake Superior. You have met six times and a deadline for alternate disposal methods was set and ignored last summer. With each day that has passed Lake Superior has become more polluted. The public can only conclude that the Conference feels that the short-term monetary benefit to one company is more important than the long-range advantages of clean water for the entire Great Lakes region.

I hope that you will prove this assumption wrong by insisting that Reserve provide on-land disposal for all Taconite tailings within six months.

Sincerely,

Karen Hubbard
(Mrs. David W.)

500 Garnet Street
Houghton, Michigan 49931
April 20, 1971

Conferees
Lake Superior Enforcement Conference
Radisson Duluth Hotel
505 West Superior
Duluth
Minnesota

Gentlemen:

We agree that the quality of water in Lake Superior must be maintained at all costs. Steps must be taken immediately to stop the deposition of Taconite tailings by Reserve Mining Company. Further delay is absolutely inexcusable. Act now.

Sincerely yours,
Robert T. Brown
Viola J. Brown

Letters also sent to:
- Governor William J. Milliken of Michigan
- Governor Wendell R. Anderson of Minnesota
- Governor Patrick Lucey of Wisconsin
- William D. Ruckelshaus, Environmental Protection Agency

**Houghton High School**
**JOHN M. MALONEY, PRINCIPAL**
Houghton, Michigan 49931

**Superintendent of Schools**
**BRUCE D. WOLCK**

April 19, 1971

Students for
Pollution Control

Conferees of the Lake Superior Enforcement Conference
Radissin-Duluth Hotel
505 W. Superior Street
Duluth, MN 55802

Dear Sirs:

The Students for Pollution Control of Houghton High School in Upper Michigan share the shores of Lake Superior with residents of Wisconsin, Minnesota, and Canada. We feel strongly that you must stop the Reserve Mining Co. from dumping it's taconite tailings into the lake. It is not fair that one company's profit is being made at the expense of the much larger good of the whole Great Lakes Basin.

Lake Superior, the only Great Lake still reasonably unpolluted, is a source of water to flush the other lakes as well as an invaluable resource itself. The tailings are not being confined as the company claimed. Streamers of murky water have been traced 60-70 miles from their origin at Silver Bay. Additional half-way and stalling measures must not be allowed.

The only acceptable solution to the disposal of the tailings is land storage. This is to be desired also in case future techniques or needs make it feasible to extract more iron from this material which would be irretrievable once the tailings have been scattered all over the bottom of the lake.

The Lake Superior Enforcement Conference has a responsibility to all the people bordering the lake to do its job of enforcement and to stop this wanton misuse of public waters.

Sincerely yours,

Elaine Mikkola
Linda Brown
Bob Lowney
Peter Chambers
Sam Tidwell Jr.
[illegible] Ann Yotti
Paula Mayworm
Marie Papworth
Mrs. Barbara Clark-
faculty advisor

Gregg Gunnell
Pearl Huang
Becky Bryant
Suzanne Yerg
[illegible] Nainawitz
Carmen Belanger
Mark Frazee
Sherri Juntunen
Jim Puumi
[illegible]
Jill [illegible]
Diane Ruohonen
Bill [illegible]

Mike Patterson
Richard [illegible]
Mark Maijala
Sherry Lampinen
Scott [illegible]
Ron Tuomi
John Hill
Don [illegible]
Kay Belanger

**STANDARD LUMBER COMPANY**
*Standard for service • Standard for savings*

101 West Sheridan
Ely, Minnesota 55731
April 21, 1971

Lake Superior Conference
℅ Hotel Duluth
Duluth, Minn.

Dear Sirs;

I am writing you as a concerned citizen and business man of Ely.

I am not convinced that Reserve Mining Company is the sole problem of the polution problem of Duluth. Granted, they are not doing the lake any good. But they are doing the state a lot of good by employing a great number of people in the Ely, Babbitt and also the north shore area.

I for one am quite concerned about the outcome of your meeting in Duluth.

I would like to see Reserve Mining stay in Minnesota to help the economy of our state and keep the jobs open for many people.

Please consider this in making your final decisions.

Sincerely,

James P. Bronner

James P. Bronner, Manager

JPB/BLP

Rte. 1 Box 269-A
Houghton, Michigan
April 20, 1971

Conferees
Lake Superior Enforcement Conference
Radisson Duluth Hotel
505 West Superior Street
Duluth, Minnesota

Conferees:

For the past thirteen (13) years Reserve Mining Co. has been polluting Lake Superior with 60,000 tons of taconite tailings daily. This must stop! I feel that this unnecessary pollution of Lake Superior is jeopardizing the fishing and tourist industry in the Lake Superior area. Reserve Mining Co.'s present disposal methods are also imperilling the natural beauty of the largest fresh water lake in the nation. This natural beauty is now being enjoyed each year by many thousands of citizens of the great state of Michigan and of the country, but can this scenic attraction still exist ten years from now if the pollution of Lake Superior is allowed to continue?

All other companies on Lake Superior are using alternate disposal methods for their taconite tailings so no new technology is needed. It is my firm desire that the Reserve Mining Co. should adopt complete on land disposal methods for disposing of their taconite tailings. The pollution of Lake Superior by the Reserve Mining Co. must stop at once; not 5 to 10 years from now when the damage is done.

It is my wish that this letter be embodied as part of the testimony heard at this conference.

Sincerely,

Mrs George R Mattson

cc

April 23, 1971

To the Conferees:

As residents of Silver Bay, we resent the implication that the people from Silver Bay who attended this Conference yesterday and are here again today were paid by Reserve Mining Company to attend this Conference. We resent the inference made in the news media which referred to us as the "Reserve cheering section."

To set the record straight, Gentlemen, the residents of Silver Bay were raised out of their lethargic apathy by the inspiration and the hard work of one individual in Silver Bay--Marie A. Frey. On her own initiative, at her own expense and because of her own personal concern, she prepared and paid for a letter that was mailed to all area organizations and distributed by the Girl Scouts to every home in the community on April 16.

Because of her letter, her sincerity and her determination, we came to this Conference.

We wish to have this entered into the official transcript of these proceedings so that our (Silver Bay residents) attendance at this Conference will be put in the proper perspective.

Respectfully,

Dorothy M. Cox
Deputy Clerk
Village of Silver Bay
Silver Bay, Minnesota

Attachment: Marie Frey letter of April 16, 1971

29 Davis Drive
Silver Bay, Minnesota
April 16, 1971

AN OPEN LETTER TO ALL AREA RESIDENTS:

The LAKE SUPERIOR CONFERENCE will re-convene at the HOTEL DULUTH in DULTUH on APRIL 22 and APRIL 23 at 9:00 A.M.

## WHO CARES??

Everyone in the entire state cares and they come by bus loads and car loads from all over this state and from Michigan and Wisconsin as well.

School children are dismissed from school to attend the conference. Special interest groups are all there to have their voices heard in opposition to Reserve Mining Company.

AND WHO COMES TO THE CONFERENCE FROM SILVER BAY? From Silver Bay, the community that is directly and personnaly affected by the decisions made at these conferences??? Would you believe, outside of Reserve officials, a mere handful? A mere handful of people to represent an entire community. There is no visible or tangible evidence of support from Silver Bay. As a matter of fact, Silver Bay residents are conspicuous by their absence.

Perhaps, now we can turn the corner. On APRIL 22 and APRIL 23, Silver Bay residents will have an opportunity to show their interest, to show their concern, to show their support, by attending the Lake Superior Conference in Duluth, which is OPEN TO THE PUBLIC.

CALL YOUR FRIENDS! ORGANIZE CAR POOLS! GET INVOLVED! Be on the scene where the decisions will be made. Let's stand up and be counted!

I will be at the LAKE SUPERIOR CONFERENCE in DULUTH on APRIL 22nd and 23rd. I hope to see you there!

Very truly yours,

MARIE A. FREY

**JOHN D. DINGELL**
16TH DISTRICT, MICHIGAN

WASHINGTON OFFICE:
ROOM 2210, RAYBURN HOUSE OFFICE BLDG.
WASHINGTON, D.C. 20515

DISTRICT OFFICE:
4917 SCHAEFER ROAD
DEARBORN, MICHIGAN 48126

**Congress of the United States**
**House of Representatives**
**Washington, D.C. 20515**

COMMITTEES:
INTERSTATE AND FOREIGN COMMERCE
MERCHANT MARINE AND FISHERIES
CHAIRMAN, SUBCOMMITTEE ON FISHERIES AND WILDLIFE CONSERVATION
SELECT COMMITTEE ON SMALL BUSINESS
CHAIRMAN, SUBCOMMITTEE ON REGULATORY AND ENFORCEMENT AGENCIES
MIGRATORY BIRD CONSERVATION COMMISSION

April 20, 1971

Honorable David D. Dominick
Commissioner
Water Quality Office
Environmental Protection Agency
1626 K Street
Washington, D. C. 20460

Dear Commissioner Dominick:

It is my understanding that the Lake Superior enforcement conference will reconvene on April 22 and 23, 1971, under your chairmanship, to review and act upon the technical committee's report on the Reserve Mining Company's disposition of taconite tailings.

You will recall that in a letter to you dated October 23, 1970, I stated: "It would appear that your agency, under the provisions of the statutes relating to water quality and the National Environmental Policy Act of 1969, has a clear obligation to halt the continuing degradation of the waters of Lake Superior."

I continue to believe that your agency has a firm statutory duty to halt the use of Lake Superior as a dumping spot for taconite tailings from the Reserve Mining Company's plant. I would suggest that the reconvened enforcement conference take action to set a firm deadline--July 1, 1971 would seem appropriate--by which time Reserve Mining Company must implement a plan for on-land disposal of its taconite tailings.

As an example, it occurs to me that ore is brought to Reserve Mining Company's plant in railroad cars and that these same cars could be utilized to transport the tailings to one of the Company's mining pits for disposal. There would appear to be no great technical problem about creating holding areas at the plant site into which the slurry could be dumped while the water evaporated or was otherwise removed during the warmer months. The dry tailings could be readily loaded into the railroad cars for transport to an on-land disposal site. During freezing weather, the taconite slurry could be dumped into appropriate size forms, frozen and then loaded onto railroad cars for transportation to the disposal site.

What I propose is technically feasible and I fail to see why it would not be economically feasible as well.

I would greatly appreciate being provided with a report on what I have proposed and on the results of the April 22 and 23 sessions.

Please make this letter a part of the public record on this proceeding.

Thank you for your attention to my request.

Sincerely yours,

John D. Dingell
Member of Congress

A

cc: Honorable William D. Ruckelshaus

April 19, 1971

Conferees
Lake Superior Enforcement Conference
Hotel Duluth
Duluth, Minnesota

To whom it may concern:

Citizens to Save Superior's Shoreline (Marquette, Michigan), Michigan branch of Save Lake Superior Association, wishes to reiterate its position on Reserve Mining Company's protracted dumping of iron ore tailings daily into Lake Superior: Under no circumstances must this be allowed to continue. Profits cannot now be at the expense of people and the environment. Reserve should be forced to halt production immediately until a satisfactory (read clean) disposal plan can be implemented; the debt it owes to the public in fouling the environment is inestimable and the damage it has inflected is irreversible. Since Reserve Mining officials now know full well they are the major polluters of Lake Superior, their continued disregard for the environment is an affront to the public and a travesy to future concern on the part of big business. For federal agencies to allow this condition to exist is to perpectuate agrievous error.

Sincerely,

Carl W. Gutman
Co-Chairman
Citizens to Save Superior's Shoreline

CWG/jrq

Telefax **WESTERN UNION** Telefax

A CST APR 21 71 MA042 OTB053 USB51
BUA051 GOVT PD BU WASHINGTON DC 21 949A EST
ID DOMINICK
NVIRONMENTAL PROTECTION AGENCY DULUTH HOTEL DULUTH MINN
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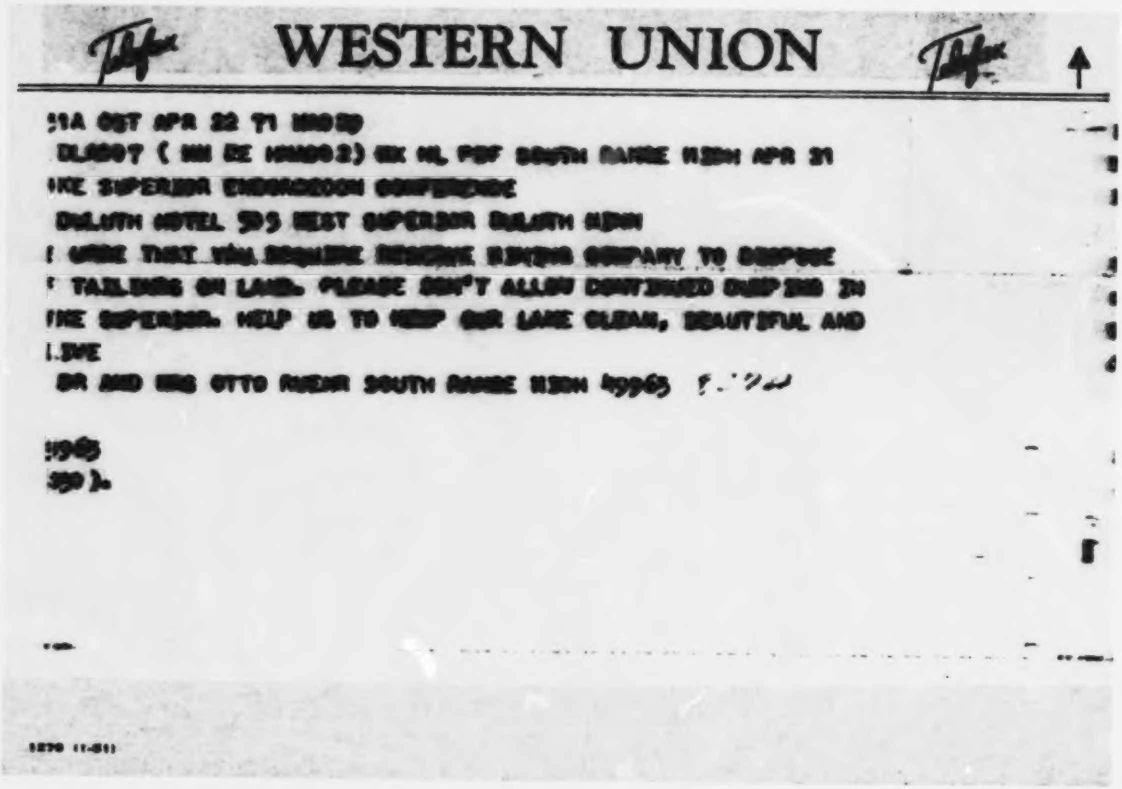

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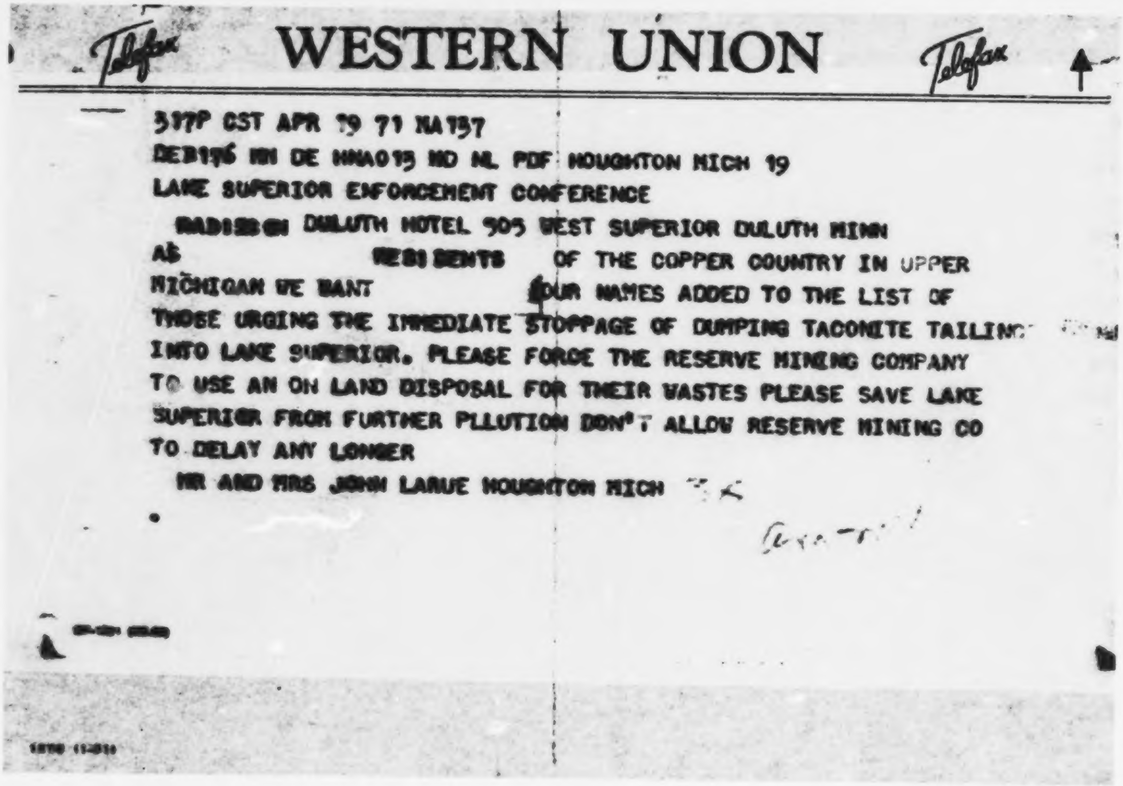

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DR. ANDERSEN: Mr. Chairman, while we are waiting, may I take the time to reiterate what I said this morning concerning the statement made by Mr. Merritt. I have noticed -- the reason I am mentioning this is I have noticed copies of a preliminary draft of this statement are present on some of the tables in front of some of the conferees as a statement of the Minnesota Pollution Control Agency, and I would like to reiterate that this is not a statement of the Minnesota Pollution Control Agency.

MR. DOMINICK: Thank you, Dr. Andersen. Could you clarify for the Chair what statement it is to which you are referring?

DR. ANDERSEN: It is the statement that Mr. Merritt made this morning after he presented the statement of the memorandum on the tailings disposal modifications.

MR. DOMINICK: As I recall, there were two separate statements given by Mr. Merritt, interrupted by questions. The first statement, I believe, had a signature on the bottom of it. Can you give me that statement? Not a signed signature but a typed title, George R. Koonce, Acting Chief, Section of Industrial and Other Wastes, and this statement is entitled Minnesota Pollution Control Agency, Division of Water Quality, Memorandum on Tailings Disposal Modifications Proposed by Reserve Mining Company, Silver Bay, April 20, 1971. What statement --

DR. ANDERSEN: It was a statement he made after presentation of that statement.

MR. DOMINICK: I see. The first statement that I have just referred to, Memorandum on Tailings Disposal, does that represent the view of the Minnesota Pollution Control Agency?

DR. ANDERSEN: That is correct, sir.

MR. DOMINICK: And the second statement that Mr. Merritt made is a statement by Mr. Merritt as an individual and does not represent the view of the Minnesota Pollution Control Agency?

DR. ANDERSEN: That is correct.

MR. DOMINICK: Thank you very much.

MR. MERRITT: Mr. Chairman, at this point, if I might make a point of clarification if I may. The report given which I read, signed by Mr. Koonce, I beg to differ with my esteemed colleague, Dr. Andersen, is not the report of the agency. As this stated, it is a staff report of the Minnesota Pollution Control Agency, and the second report or statement is the statement, as I read it, of the conferees here today from the agency but is not the statement of the agencies.

MR. DOMINICK: Well, granted if that is a clarification I leave that for others to judge.

Nevertheless, let us be clear on this point: that the second statement which you very ably gave this morning does not constitute the views of the Minnesota Pollution Control Agency but constitutes views expressed by you as one of the Minnesota conferees? Is that a correct statement?

MR. MERRITT: Well, essentially, but Mr. Chairman, this statement was worked out by all three conferees -- Mr. Tuveson, Dr. Andersen and myself, and does represent as in the past the statements of Minnesota which have represented the views of the conferees in this conference.

DR. ANDERSEN: There were minor differences, Mr. Chairman, that could not be resolved, and that is why some -- when the statement that was prepared says "the Minnesota conferees," this statement was changed. This part was changed to "I", representing Mr. Merritt.

MR. DOMINICK: Very well. I think I understand that much of it.

Now, let me say this to the Minnesota conferees assembled here -- all three of you. We would welcome any statement from you as conferees if you can reach an agreement on such a statement, and we would welcome any statement from your agency in addition to the one that you submitted, and you may submit that for the record. Additionally, I would call attention to our discussion earlier about the standard violations that have been discussed by the State of Minnesota, and we would appreciate having an enumeration of those violations this evening for our examination. Will that be possible?

MR. MERRITT: Mr. Chairman, just a couple of matters in connection first of all with WPC 15. We do have the regulations now condensed here, and we will have Xeroxed over the evening copies so that we will have sufficient number for each of the conferees and others in the morning. I have one copy here which I could pass down the table, but I think it would be better to make Xerox copies and have those available in the morning.

MR. DOMINICK: That will be fine if you will make Xerox copies and make those available to all of the conferees at the earliest opportunity.

Let's proceed please.

MR. MERRITT: Mr. Chairman, first of all -- perhaps I should go up here.

I'll be very brief.

Just in response to Mr. Fride's statements about the Governor's policy on Lake Superior, let me state that policy has been in existence since he became Governor, and as he stated to the conference at the session on January 14, this policy is consistent with what he said back in August in the conference at that time. I won't read -- I won't take the time to read that statement, but that should be clear.

In reference to the letter which Mr. Fride passed out that is dated the 21st of February, and I want to say that I am very proud to count Charles Stoddard as a friend, and we work closely. I want to say that he did suggest a certain course of action which I was glad to receive, and we worked on it. It was modified additions were added, a number of other matters were included by the Governor in that letter to General Clarke, and I think that the State of Minnesota should count itself very lucky to have a man by the name of Charles Stoddard available to present recommendations and suggestions. And I think that the report which was given in part by Mr. Stoddard this afternoon demonstrates the exceedingly able, competent job that this man has done, and I am very proud to consider him a friend. I, at this time, am happy to introduce him again to present certain rebuttal matters, and then he will call on Mr. Niss also to add to the rebuttal.

Mr. Stoddard.

MR. STODDARD: Thank you, Mr. Merritt.

Mr. Chairman, conferees, Mr. Fride, speaking for Reserve Mining Company, covered such a wide variety of subjects that time to cover them in detail would go on well into the evening, and I don't intend to keep you here, so I'll skip through some of the points.

We made it clear about anonymous sources. They weren't anonymous. They were capable men in the engineering profession, mining engineering profession, who gave us this information. Bruce Niss summarized this information in the same way that Lawyer Fride summarized information and presented it to you. Bruce Niss has training in the environmental field in addition to forestry far beyond I think the spokesman for Reserve.

The attempt to discredit individuals and the attempt to discredit reports is continuing at this conference, and I don't intend to answer that. I think Mr. Nader took care of that quite well the other day.

The fact that Mr. Fride and Reserve has served a subpoena on Mr. Merritt with respect to the -- taking the PCA into court is another example of their unwillingness to cooperate and to work out a solution. With respect to the letter to General Clarke, last year Reserve Mining Company hired Clark Clifford, former Secretary of Defense, and they hired former Assistant Secretary Max Edwards of the Interior Department to go to see General Clarke. The fact that we have asked Mr. Merritt to get the Governor to move on this is simply an attempt by a citizen's group, concerned citizen's group to get equity.

Now, on the matter of the economic aspects of the report, we have had two versions. I am simply going to say that Professor Berryman, again, who is the Chairman of the Department of Accounting, University of Minnesota, was the consultant and did the work for Touche Ross, and his analysis is an analysis that nobody has taken apart section by section, item by item. Mr. Fride threw out a number of figures here that were different. They would have to be backed up with as much detail as the Touche Ross report which we made available.

With respect to Mr. Frangos' point on the $82 million, this was a calculated cost that was developed by Touche Ross, and it is in that report.

MR. DOMINICK: Mr. Stoddard, would you make available the analysis that Dr. Berryman performed here, or is that the analysis which was contained in your written statement?

MR. STODDARD: That was an -- we excerpted from that. And I also turned over to Touche Ross a report which he was the author of, and those are in the files of the PCA and can be made available to you, I am sure.

MR. STEIN: That report has already been submitted to the conference.

MR. STODDARD: Pardon me?

MR. STEIN: That report has already been submitted to the conference.

MR. STODDARD: Yes. I think Mr. Gooddell submitted it in January.

MR. STEIN: Right.

MR. STODDARD: Now, with respect to technical feasibility, which is the last item, I am not going to go into any more of Mr. Fride's points, except the technical feasibility aspects. And Bruce Niss has made some notes here which he will bring up at this point.

Bruce.

MR. NISS: Well, we'll concern ourselves with this supposedly -- what is supposed to be a dust problem, first of all, since that is what we were took out on first. Mr. Merritt, you were on a tour of the -- I believe the Minn-tac plant up at -- well, wherever it is. Can I ask you what they had to say about the dust problem up there?

MR. MERRITT: There is no dust problem at Minn-tac, Mr. Niss.

MR. NISS: As for the fines working into the ground waters, etc., at the plant, or rather at the area of the disposal area, none of the other companies seem to have this problem. There have been no notices of fines in the ground waters of any of the other areas and the cities that surround these tailings disposal areas. As a matter of fact, we have all of our three -- all of our three engineers say that the fines which when they enter the tailings basin are then called slimes have a sealing effect on the bottom of the basin. They tend to seal the basin so none of this stuff will leak out.

What else? Let's see. Reserve Mining addressed themselves to the differences that existed between some of the different reports. Yet they used the compilation of these differences to add up the total cost of the tailings disposal plants and come to conclusions that some of these were not acceptable.

I also submit that there is no place in the Bechtel report that says that this thing is or is not feasible. They have done 100 percent of the preliminary engineering, so obviously they think it is feasible. The feasibility is a valuable cost judgment which Reserve has determined. The technical feasibility is here.

As for the amount of -- the amount of tailings being pumped by Bechtel being ½ of the amount pumped by the Trygve Hoff study, we took this into account with the number of pipes, pumps and costs, etc., and doubled the Bechtel figures. I might also add that the Trygve Hoff study included regrinding of the coarse material so that these would be in essentially the same shape as the tailings that are going through the Bechtel pipes.

I also want to point out to the conferees that the Trygve

Hoff studies include drainage canals to divert river waters from over half of the watershed area, but it did not include the building of the dam of coarse tailings that was of rock. On the other hand, Bechtel studied building of the dams of coarse tailings but did not study diversion of the river waters. Now, I think it is fairly obvious if you combine these two, it is going to give less volume to the tailings basin than either one of these taken separately.

Bechtel makes -- or rather Reserve Mining makes some mention of the tailings freezing so deep during the winter if they were stockpiled that they would not be able to be reclaimed. No mention is made of this in the Bechtel study. In fact, it says that stockpiled tailings would have a tendency to dry out quite a bit.

This is all I have. Thank you very much.

MR. DOMINICK: Are there any questions? Questions or comments?

MR. MERRITT: Mr. Chairman, I just have one comment. Mr. Niss asked me about the Minn-tac plant. That is Mountain Iron, Minnesota, plant -- taconite plant of the United States Steel Corporation. It is the tailings basin, and I was also informed there is no leaching of water or no water runoff from the bottom of their tailings basin at Mountain Iron.

MR. DOMINICK: Thank you.

Thank you very much, Mr. Niss.

Ladies and gentlemen, you have been an extremely good audience and your participation has been responsible. Your comments have been fair.

To the citizens of Silver Bay, we are happy to have had you here today. To the Lake Superior Association, we are happy to have had you.

I want to compliment the entire audience.

I also want to remark that in a proceedings such as this, which is a nonadversary proceeding, which is a proceeding without strict rules of evidence, people must be guided by a sense of fairness, a sense of fair play and a sense of willingness to get at the facts, and I think that this conference has acquitted itself very adequately today. I think all of the participants have acted in good faith, and I appreciate your efforts and the efforts of the conferees.

We will recess until 9:30 tomorrow morning. Thank you very much.

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A. M. Session
April 23, 1971

MR. DOMINICK: Ladies and gentlemen, if we could reconvene this conference on the subject of Lake Superior.

I would like to take note of the agenda at this time. First off we have:

Statements by Private Citizens or Groups on Other Subjects -- Other Subjects being subjects other than the discharge by the Reserve Mining Company of taconite tailings into Lake Superior.

Statements by Federal or State agencies on other subjects.

Proposed Revisions to the Lake Superior Water Pollutant Criteria.

The Status and Compliance of discharges from the following states: Wisconsin Michigan and Minnesota.

S. J. Gadler

A Discussion of the Red Clay Problem from Wisconsin.

A discussion of Other Recommendations.

At this time we are happy to receive any statements from private citizens on the subject of Lake Superior.

MR. MERRITT: Mr. Chairman, I understand that we do have a request from Steve Gadler, a member of our agency, of the Pollution Control Agency of Minnesota, who would like to give a statement as a private citizen. I am informed -- I believe he talked to you about it.

MR. DOMINICK: Very well.

MR. MERRITT: Would you like to have him proceed now?

MR. DOMINICK: Very well. Go ahead.

## STEVEN J. GADLER
## PRIVATE CITIZEN
## ST. PAUL, MINNESOTA

MR. GADLER: Mr. Dominick and conferees, Mr. Grant, thank you very much for this opportunity as a private citizen to make a statement. I am Steve J. Gadler of St. Paul, Minnesota.

Always there has been hope that as man progressed in science and technology and philosophical contemplation, he would learn that he is not exempt from the laws of nature that govern the ecological system of which he is a part. He should know that of all living plant and animal life he alone is the most capable; that through his creative ingenuity for environmental compatibility with nature he could insure the survival of the space vehicle called "earth."

Always there is hope that although man has recklessly contaiminated the environment and has heedlessly exploited and destroyed the earth's resources, he would discover his own endangerment. For interfering with the song of the universe and the harmony of the ecological system man destroys himself.

Always in the past there has been more frontiers and new lands to be spoiled, and until recently in point of time man's needless destruction of his environment continued and it is still continuing. There are no frontiers to exploit and no new Lake Superiors to destroy.

It is my personal opinion that the conferees of the Federal Government will not do anything. I therefore call and want to read into the record the names of the men, who, in my opinion, can do something about it. I bring to your attention the Board of Directors of the ARMCO Steel Corporation, who owns half interest in Reserve Mining; D. C. Boone Senior Vice-President of ARMCO Steel; D. P. Booth, Jr., Chief Executive Officer; John C. Denton , President of Chemalex Company; James C. Donnell, II, President of Marathon Oil Company; Herbert J. Frensley, President and Chief Executive Officer, Brown and Root, Incorporated; Phillip O. Geier, Jr., Chairman of the Board of the Cincinnati Milicron, Incorporated; John W. Hanley, Executive Vice-President of Procter & Gamble Company; Harry Holiday, Jr., Executive Vice-President, ARMCO; L. T. Johnson, Chairman of the Board of ARMCO; R. Stanley Laing, President of the National Cash Register Company; John A. Mayer, Chairman of the Board of the Mellon National Bank & Trust Company; and D. E. Reichelderfer, Executive Vice-President of ARMCO; C. W. Rowles, Senior Vice-President, and C. William Verity, Jr., President and Chief Executive Officer of ARMCO and a member of the Executive Board of Reserve Mining Company; Republic Steel Corporation,

S. J. Gadler

George E. Allen, Attorney at Washington, D.C.; H. L. Allen, Vice-President and General Manager of Operations of Republic; E. Collin Baldwin, Chairman of the Board and Chief Executive Officer of the Sherwin Williams Company; John W. Bricker, Attorney, Bricker-Eva, of Columbus, Ohio; W. J. Delancey, Vice-President and General Counsel of Republic; F. R. Eckley, President of the Ohio Bell Telephone Company; G. Keith Funston, Chairman of the Board of the Owen Corporation; J. R. Kerr, President and Chief Executive Officer, AVCO Corporation; C. E. Spahr, Chairman and Chief Executive Officer of the Standard Oil Company of Ohio; T. F. Patton, Chairman of the Board and Chief Executive Officer of Republic and Chief Executive Officer of Reserve Mining; Vern Stouffer, Chairman of the Litton Industries Food Services Group, Stouffer Foods Corporation, Cleveland, Ohio; J. D. Wright, Director and Retired Chairman of the Board, TRW, Incorporated, and the Board of Directors of Reserve Mining Company are three members from each one of those corporations that I have named off, and E. M. Furness, of course, President of Reserve.

In addition to those companies, there is another company that is involved, and that is the Masabi Trust who furnishes the ore to Reserve; the Bankers Trust Company, a corporate trustee of the Masabi Trust, New York City; Francis D. Butler, Gilbert M. Hass, Earl Knudson and Norman F. Sprague, Jr., who are trustees for the Masabi Trust.

I, as a citizen of the State of Minnesota and of the United States, call upon those Board of Directors, those members of the Board of Directors, to take action to protect that lake and stop the dumping of 67,000 tons of that crud into the waters that belong -- this water belongs to the people of Minnesota and to the people of America, and it shouldn't be destroyed by corporate trust.

Thank you very much.

MR. DOMINICK: Do we have any more statements by private citizens or groups?

MR. MERRITT: Mr. Chairman, I have just been handed a note by Pastor Clifford Dirksen of Silver Bay, apparently in reference to the Reserve matter. Would you like him to proceed? I don't know what he has in mind. Are we still taking statements from private citizens on Reserve?

MR. DOMINICK: It was my impression we were taking statements on Other Subjects. But the statement of the last speaker was clearly directed to Reserve, and if there are further statements on that subject I think we should be equal in our treatment to all.

MR. MERRITT: All right. I'll call on Pastor Clifford Dirksen then of Silver Bay at this time.

## PASTOR CLIFFORD DIRKSEN

## SILVER BAY, MINNESOTA

PASTOR DIRKSEN: Distinguished guests, members of the panel, I am not speaking on behalf of the clergy of Silver Bay. I am not speaking on behalf of any official or workman at Reserve Mining Company. I am speaking on behalf of the people of Silver Bay and on my own behalf. What I am going to say has perhaps been said at further -- earlier conferences, because I have not attended all of them.

The reason I am speaking on behalf of the people of Silver Bay is because of the fact that people are my business, people are your business, because people is God's business.

I came to Silver Bay 7 years ago. Since that time I have been privileged to converse with people throughout the community because of the fact that their economic and social life determines, to a large degree, their response to spiritual challenges and invitations. When a people's morale is up their spiritual responses are up. When a people's morale is down their spiritural responses are down.

I am not even attempting to say that our problem is a spiritual problem. But in conversation with people throughout the community for 7 years, I have heard it time and again of the concern that Reserve Mining Company has for the quality of Lake Superior, and they have used technology of the finest type to continue the quality studies on their own. And I have seen the water, I have drunk the water, my children drink the water, and we are going to continue drinking the water.

I was told at my first conversation regarding certain controversies that had arisen about Reserve Mining Company's use of Lake Superior -- I was told that this started out as a political problem. Then I understand it became popular to call it an "ecological problem." But so far as I am concerned, it has always been a people problem, and that is what people are saying it is today. Well, if it is a people problem, then I wonder if proper compassion and concern is being given to people who are living in the communities thus to be affected and if the people of Northern Minnesota are prepared to accept the consequences economically, socially, politically, and every other way?

If Reserve Mining Company in any sense at all because of action brought against it has to cease operation, I wonder about that problem. Then it becomes a problem to the whole State of Minnesota. So it is a people problem. I want it to remain a people problem. I would please, I would pray, I would urge that when this matter is determined it be determined not on the basis of political prudence, not on the basis of the cultural or social expediency or economical expediency, but it be considered on the basis of scientific fact, on the basis of legal determination and on the basis of humanitarian compassion.

Thank you, gentlemen.

MR. DOMINICK: Thank you very much.

MR. MERRITT: Mr. Chairman.

MR. DOMINICK: Yes.

MR. MERRITT: I seem to be deluged this morning with notes. I have another one here. I don't know what your pleasure is. It is another private citizen that wishes to speak at this time. This is Arlene Harvell.

MR. DOMINICK: I would like to suggest to all citizens or groups sitting in the audience that wish to make a statement at this conference today, come forward right now and present your names, and we will place you on the agenda and schedule you. Will all citizens or groups that wish to make a statement, please come forward.

I would urge also that your statements be limited to new material, new considerations. We have a good deal of business before us, and we would like to move this conference on to some conclusions and recommendations just as rapidly as possible. So if there are any citizens desiring to speak on other matters, please come forward at this time.

MRS. ARLENE I. HARVELL
EDITOR
SAVE LAKE SUPERIOR NEWS
DULUTH, MINNESOTA

MRS. HARVELL: I am Mrs. Arlene Harvell. I was born and raised on the North Shore of Lake Superior. I presently call Duluth my home. I have been at every one of these conferences from the very beginning. I have made statements. Although I do not carry the ethos of the cloth, I have had 3,000 people behind me as members of a cause of the movement to Save Lake Superior -- not to preserve it from total use by man by the residents of Silver Bay and by the tourists but instead to conserve it for everyone's use now and hereafter; to guarantee that its cleanliness is here for the industries that might be attracted by subsidiary uses of taconite tailings; by those industries that are attracted by the simple fact of population in our area; by the fact that we are one people together, working for a future, some future not just one of a lake but of a total environment.

Studies have been made. Studies have been made and made and made, and maybe Lake Superior right now is one of the most studied lakes of all. Studies didn't save Lake Erie. Studies may not save this lake. Studies are made by Reserve Mining Company because to some extent they are required by law and to some extent because they have a guarantee not only for the quality of the product and the quality of the water that Reserve will use but for the quality of total environment.

Reserve is made up of people too, and I am sure they are concerned about their environment. But in a democratic system they must also take into consideration the concerns of some 3,000 and more people that have risen to say, "No, we don't want that use made of the lake any more. We are sorry, but we have changed our minds. We see what has happened to the rest of the Nation." And they have spoken at all of the previous conferences to this effect. They did say what they wanted to say. They did make that known.

Yes, it is a people problem and it is a political problem. It can't help but be in a democratic Nation, and I think we should be proud of the fact that it is.

There are scientists on both sides. We have heard from them all. But it isn't the scientists who are going to decide these issues, it is the people. The solution to the problem is the decision of the people and what they are trying at the present time to work this out by methods of the democratic process. And I personally feel that the statements are in. Certainly there may be more, but please let's allow this conference to proceed and do the work that it has been charged with. I think people have spoken. They have free access to the press. They can distribute their statements. But please, let's not waste any more of the taxpayer's money. The conferees are not here to close up a plant. I don't feel they are. I don't feel they are here 100 percent in our favor nor to Save Lake Superior's position either. They are trying through the democratic process to work out an agreement. Let's allow them to do so.

Thank you.

MR. DOMINICK: Thank you very much.

There are two other persons that have come forward and asked to speak, and we will limit the speakers to these two that have identified themselves -- Mr. L. Jandrt and Mr. George Gimich.

MR. L. JANDRT

PRIVATE CITIZEN

TOSTE, MINNESOTA

MR. JANDRT: Ladies and gentlemen of this audience and of the complete North Shore from Duluth clear into Canada, I just want to let you know that I am just a humble, lonely man like you people are. I have never spoken to a group of people like this before except at a gospel service. I have only spoken over a microphone 2 times before at gospel services because I am in the Evangelistic work now. But I have been on the North Shore for 22 years, and I can tell you more in the few minutes that they allow me than you have been told in all these meetings because I am a fisherman.

I was trying to gather up eight or 10 or as many as I could old-time fishermen, 50, 60-year-old men, that some have retired and some went out of business because there's no fish in the lake anymore to amount to anything. But that isn't going to gain us anything, people. I am here to come right straight to the point. These talks are good, and I encourage competition in everything. But understand now, I am going to be lost for words because I'm not a speaker; I'm just a roughneck from the wilderness. But I'll tell you something that you don't know. Now, we've got -- we've got to fight something that is big, a lot bigger than all of us -- all the mining companies and all their money and all their will and all their slick lawyers and all their sneaky plans and all their tricks and everything. We've got to fight it. We've got to fight it good.

I tried to be here yesterday but I couldn't make it. I tried to gather up a number of old-timers to be here so I could say, "Smith, Jacobson, Nicholson, you speak for a minute or two." But I find out they only give you a few minutes of time, so I'm going to talk fast.

The claims that they've got -- the claims that they've got that they're not damaging the lake, that's the thing we want to talk on.

Now, they claim they've got the lake separated now. Big deal. They've got it separated in three sections -- from Duluth to Two Harbors, from Two Harbors on up to -- Little -- Little -- this side of Beaver Bay, this side of the plant. You know what I mean. I don't know, I just learned this yesterday about these sections. That's what they've got. And then there's three sections. They claim the two outer sections -- the west section and the east section that runs up past Grand Marais -- they claim that the fish have died away; the amount of fishing has died away and fell off all in all in those two places more than they did in the Beaver Bay area. But they don't tell you this -- that these sections were no good in the first place much at all for fishing in the section -- that third section up there never was much good for fishing because I know that. I've been on that lake for many years and in the inland too. They don't tell you that the streams, the valuable streams, the spawning streams begin at Split Rock. Goose Bay -- Goose Bay, Beaver -- Beaver River, Cascade River, Baptism River, Baraboo River, Temperance River, of which every one of them lakes -- streams I fished in, by the lake too -- them are the main spawning streams. Most of the trout of the Lake Superior area was in that area. Now, if it did hang on a little bit longer before it became finally depleted it was because there was so much fish in that area. You never saw fishermen down here. You can ask anybody. Hardly ever a fisherman down here around the Duluth area and up to Two Harbors, and you hardly ever saw anybody beyond Lutsen. A few would scatter. But all those Norskes, all those fishermen that were catching the big catches of fish they were in that area. That's where the fish were in multitudes, see. You know what I mean. Naturally they're going to hang on a little longer no matter what you put into that lake. Furthermore, that's a big lake, and that can stand a lot of abuse for a long time until it comes to the point where it can't no more.

Now, them trout -- trout must spawn in shallows, in shallows or in streams when they lay their spawn. The current in the lake, and there's a terrific current there, sometimes they can't even pull their nets. That's -- but I may not get to that, people. That current in the shallows got to churn those eggs, roll them, also in the streams before they will hatch. Otherwise, the don't become fertile. Them trout are laying their eggs in this here sediment that is thick now all over the area, clear up into Canada it is, because I've been up there in Canada and I know what I'm talking about. It's even in these small other lakes of the Great Lakes too.

I'm no engineer, but I can't go up and make them tests that you read in the paper. They are making tests out there in the other lakes, main freshwater lakes, and they're all polluted already with sediment, see, and these streams, these most productive streams where the trout come and spawn, they come into those streams. Most of them come up to the first barrier and -- and -- and lay their spawn, and then the trout come out, see. Now, when the trout lay their -- their spawn in this here sediment that's gathered on the bottom they'll rot. The eggs rot. They do not come fertile and therefore the reproduction is gone. Sure, they are planting them in there, but that doesn't mean anything.

Another thing, that there lake is so full of that there taconite dust when that current churns it up that taconite dust gets in the gills of them trout, because they don't jump up on the shore and say, "I'm choking, I'm choking" -- because they don't get up on that shore and claim they're choking don't mean they don't die. They go back out in the lake and they die. That's the truth.

Another thing, another thing, you remember about that three sections now. Them three sections, the biggest productivity of this lake was there for that distance of about 60, 70 miles or so, and that's spreading out them tailings and taconite. They've got a fantastic nincompoop idea of hardening them. Listen, people, they can't even convince a 6-year-old -- 6th grade pupil about that hardening 67,000 ton of -- of -- of tailings going into that lake daily, and how are they going to hide them when they ain't? And they claim when they came here -- I was there before they came here -- they claim when they came here, oh, they'd make the picture so nice. They're going to put the tailings in a basin on the edge of the lake just a little ways out. They're going to put the tailings in a basin, see. Now, if there was a basin there, it would have filled up in a few months at 67,000 ton a day. But there wasn't any basin there. It's a lie.

You call on your Army engineers with their contour maps of the bottom of the lake, and they are afraid -- they're afraid to come against you, because professional people don't fight together, and furthermore they're ascared of their job to tell what they know about it.

But the Isaak Walton League has got some maps of the contour of the bottom of the lake, and that there -- I just learned recently that there little trough that's there runs from beyond Grand Marais clear this side of Two Harbors, and that's 5 miles out into the lake that trough, 5 miles. And how are they going to pump tailings 5 miles out in the lake and them harden them? Why, any -- even -- why, even a saphead would know that -- that you can't harden them tailings with a lake that's got a current like that underneath that will break up everything. If it breaks up the agates, it will break up the tailings. Furthermore, it ain't the hard stuff that's worried about; it's the fine stuff -- tons and tons of that spread out. Fish don't get the hard stuff in their gills, but they get the fine stuff, and that's the bad stuff. That's right. And that's the stuff they lay their eggs with. They can't harden them tailings nohow and put them in a basin. They're lying to you -- to you whole people -- and people, average people pick it up, and, oh, because they're big shots, you know, they believe that. There's no basin there. I show you there's no basin out there where they're putting the tailings, because I worked there before they were there. I was there in that place.

All right. Now, wait a minute. Wait a minute.

Another thing, say, now, I didn't see this with my eyes, but I'm going to tell you what I was told by very high authority -- very high authority, We'll prove it. Underneath that tailings chute that I worked on, because I used to work for Hunkin-Arundel-Dixon before I became seriously hurt bad on an injury. All right. I worked on that last tailing chute that went out into the lake. Well, we weren't too nosy, but underneath that tailing chute, would you be surprised if there's about a 3-foot in diameter pipe that's carrying out every day, 365 days out of the year, 5 gallons of acid that they're using in the laboratories to -- to work -- to do something with their taconite business, you know what I mean. They need that acid -- chemicals to -- it's got to do with making their tail -- their -- their -- their taconite.

Quickly I'll eject this thing in. If the other companies can put their tailings on the shore, why can't they?

Here's -- here's -- here's another thing. I'm jumping onto the things that they're trying to stand on, and I'm knocking them right the hell out of their feet from underneath them.

I have the word of God right there, the living word -- the King James version of the Holy Bible. It tells you right in that Bible that God Almighty, Jesus Christ, created the heavens and the earth and all therein for the glory of man, for man to enjoy and make his livlihood in a graceful way -- a graceful way. Graceful I said, but not for a few hypocrites to destroy in a little while. They've given them jobs. They've given them jobs and houses to live in and everything. You can't give -- you couldn't get, I'll bet you, two dozen people honestly and truthfully if they wouldn't be fired that would agree with that, because I know almost all of these people before they ever worked there, and they've got to keep their mouth shut what's going on. That's right. Or they'll get fired. They'll get fired. But I'm neutral. I don't depend on them for my business.

Another thing --

MR. DOMINICK: Mr. Jandrt, excuse me. I think you've made --

MR. JANDRT: Don't forget about that chalk under the table.

MR. DOMINICK: Do you have a couple of more remarks? I would like to sure have you come and work for us.

MR. JANDRT: Who are you, from the Reserve Mining?

(Laughter)

MR. DOMINICK: Oh, no.

MR. JANDRT: He said I could have 2 more minutes -- 2 more minutes they're going to give us, folks.

Well, I'll tell you, I can tell you a lot in 2 minutes. I don't need to look at this. I ain't even got this on there. That's what one of these fellows said. He's talking about nature, that one minister, I believe he was. He must have been a denominational minister because he wasn't a Jesus-named minister. Otherwise, he'd know what he was talking about. I'm talking about the one Lord -- one faith.

Now, wait a minute. They say -- they've got a moaning -- moaning crying out now, "Look, it's going to put so many people out of work." Don't you let them fool you on that. It won't put nobody out of work. If they can put the tailings on the bank in them other places, they can do it here too. If they can spend $49 million to still dump them in the lake, they can -- they can make a trough, a conveyer to put them up on the bank too, because they own that place. They own that whole part back there. They bought it up, and they could put the tailings there. That's a good place and save the lake while there's still time.

What are these people doing? Another thing, they claim they're only going to be here so many years. By that time the lake will be destroyed for everybody. What's those people going to do in those few years? They're going to still have to get a job if the Mining Company is going to pull out after they make their haul up there ruining our lake. You better wake up you people and fight this thing. I'm telling you, because -- because you find out that that old crying business about "putting us out of a job" and all of that -- them people lived before they got that and they'll still live. And they wouldn't -- the Mining Company won't put them out. They won't close up. They'll put the tailings on the bank, and they'll give work for many, many men; carpenters, engineers -- I'm a carpenter -- engineers, iron workers, steel workers, laborers, everybody. They've got to do it anyway. They better do it right now before they ruin the lake any more, and I'm telling you they're ruining the lake.

I told the truth. I told the truth.

The next time I'll have a dozen old-timers with me. I didn't have time to gather them up. Fifty, 60-year-olds that fished that lake for many, many years.

MR. DOMINICK: Thank you very much for coming.

MR. JANDRT: Well, thank you for letting me talk a little longer.

MR. DOMINICK: Mr. Gimich.

MR. GEORGE GIMICH
BABBITT STEEL WORKERS
LOCAL 4757
BABBITT, MINNESOTA
(READ BY DAN HANSON)

MR. HANSON: That's a tough speaker to follow. I don't know if I can do this or not. I am Don Hanson from Babbitt. I'm speaking -- reading a statement submitted by George Gimich, member of the Babbitt Steel Workers Local 4757 and businessmen and citizens of Babbitt.

When people talk about Reserve Mining Company, they talk about

Reserve Mining Company of Silver Bay. They seem to forget that there are 3,200-plus people at Babbitt who are also Reserve Mining Company. We are the people who mine the rock from which the tailings come -- rock blasted out of the earth to be shipped to Silver Bay for processing. We're people. We have made our homes in a new community. We left our own hometowns and our friends and families to establish a new community because we needed a job. That flight was the answer to the unemployment that was so prevalent on the iron range at that time. We moved to Babbitt in good faith, believing our futures were secure; the same good faith that Reserve Mining Company did when they were granted water rights when the plant was built.

Our children attend three excellent schools paid for by Reserve. We have invested our money in our homes. We are 15 years older, getting ready to be dumped into a labor market that is already ripe with unemployment, and we're scared.

Because of this controversy business and buildings are virtually at a standstill in Babbitt. Even the churches are suffering. For the first time in Babbitt's history people are not signing their pledge cards because they do not know whether they will be able to honor these pledges or not.

What happens to Babbitt if Reserve is closed down? What happens to the people? We as citizens of Babbitt do not believe Lake Superior or any other lake should be polluted, nor do we believe that air or land should be polluted. So where do we go from here? We do not believe the future of all the people who work for Reserve and those in related industries who supply Reserve should be decided on anything but scientific proof of pollution. We need our jobs and we want our jobs. We believe that no one should use Reserve tailings to further their political careers or public images. Politics and social prestige should not be the criteria on which decisions are made at this conference. We believe the decisions here should be based on fact, and we can live with that.

Citizens of Babbitt, members of Local 4757, United Steel Workers of America, and business and citizens of Babbitt, Minnesota.

MR. DOMINICK: Thank you.

Are there any statements by Federal or State agencies on other subjects at this time?

I'd like to move on then to proposed provisions to Lake Superior water quality.

Mr. Lloyd Lueschow.

## MR. LLOYD LUESCHOW
## WATER QUALITY TECHNICAL COMMITTEE
## WISCONSIN DEPARTMENT OF NATURAL RESOURCES
## MADISON, WISCONSIN

MR. LUESCHOW: I'm Lloyd Lueschow, Wisconsin Department of Natural Resources and a representative of Wisconsin -- representative to the Water Quality Technical Committee.

On October 1, 1969, the Lake Superior Enforcement conferees in an Executive Session at Duluth, Minnesota, after review of conference testimony of May 1969, reached a series of conclusions and recommendations designed to protect the quality of Lake Superior water for future generations.

L. Lueschow

Recommendation No. 1 specifically called for the development of water quality criteria for the open lake water. The recommendation called for a Technical Committee to evaluate the parameters and levels that pose an environmental hazard to the Lake Superior ecological system.

The first Committee report was presented at a Reconvened Session of the Conference held on April 29-30, 1970. In essence this report called for the establishment of water quality "guidelines." The guideline concept had basic technical advantages, specifically a consideration of the lack of data from open water areas of Lake Superior. The guideline concept lacked certain legal enforcement advantages deemed essential by the conferees and the report was therefore rejected. The charge was subsequently remanded back to the Committee. The Committee subsequently reviewed the available data and at the Reconvened Conference of August 12 and 13 reported on those parameters that the Committee felt could be established at that time.

The conferees accepted the report which in essence charged the States with proceeding with amending the State water quality standards for open waters of Lake Superior. The State and Environmental Protection Agency representatives recognized that the numbers selected needed additional confirmation, and in early 1971 there was a substantial data contribution from the Canadian Government and from the United States Lake Survey.* In general the maximum numbers selected and reported to the conference on August 13, 1970 were accurate and acceptable, but there is reason to believe that a statistical evaluation of the data that is now available will more closely reflect the existing levels of the parameter in the lake and therefore permit active enforcement of non-degradation principles.

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*(Now Lake Survey Center, National Ocean Survey, National Oceanic and Atmospheric Administration.)

The Environmental Protection Agency has already statistically processed the joint U.S. and Canadian Lake Survey data. All that remains to be done is to complete the analysis of the data with a consideration of analytical variability.

It is recommended at this time that the Environmental Protection Agency continue the data processing program to provide the Technical Committee with the results so that the States can then initiate through their legal and administrative mechanisms the necessary amendments to their water quality standards.

MR. DOMINICK: Thank you.

Mr. Stein, do you have something?

MR. STEIN: I recognize it is a difficult job the Technical Committee has had. Can you give us a date on when this evaluation will be completed, the statistical evaluation, so we and the States may begin expecting the standards?

MR. LUESCHOW: I would expect a month or so.

MR. STEIN: Can we say about 15 June or before then? Fifteenth of June?

MR. LUESCHOW: Yes, sir.

MR. STEIN: All right. We'll expect to have these numbers by 15 June, and we'll be going to the States with proposed revisions to the Lake Superior standards. Thank you.

MR. FRANGOS: Mr. Chairman, just a point of clarification. Assuming there is an agreement in the technical people, and I believe that there is in principle. It is a matter of making a statistical analysis to round off the numbers precisely as possible. Do we have to go back to this conference or if we had an agreement from all the States involved if this would be transmitted to the States and then the States would proceed with their own administrative --

MR. STEIN: If we had an agreement from the Northern States, we would send it to the States without the necessity for a meeting. Or if there were technical problems involved, we would have a meeting because I think the issues here are largely technical rather than principle. We have already decided on that.

MR. LUESCHOW: I think that the Committee members are in basic agreement on the procedures to handle the data, and I think they would have basic agreement for the numbers that are generated.

MR. STEIN: Thank you very much.

MR. MERRITT: Mr. Chairman.

MR. DOMINICK: Yes.

MR. MERRITT: As I stated in the statement on behalf of the conferees yesterday of Minnesota, we have held hearings on these water quality criteria known as our Regulation for Great Lakes, WPC 33. The reaction at the public hearings, both in Duluth on February 17 and on April 19 in Minneapolis was almost unanimously negative. The agency is therefore deferring any further action on these standards at least until more convincing evidence is furnished as to the need for any such additional water quality standards as opposed to base line criteria.

I thought the record ought to reflect that Minnesota has gone ahead with hearings in line with the recommendation of the Congress, but we have found reasonably that the standards are not desired at this time.

MR. DOMINICK: Very well. We'll meet that issue with the State of Minnesota when the Technical Committee makes its final study.

Any further discussion on that point?

All right.

MR. FROST: Mr. Chairman, I might mention that Michigan is considering scheduling public hearings on this matter in August of this year.

MR. DOMINICK: Thank you very much.

Let's move now to the status and compliance of discharges to the waters of Lake Superior and start with the State of Wisconsin.

THOMAS G. FRANGOS, ADMINISTRATOR
DIVISION OF ENVIRONMENTAL PROTECTION
WISCONSIN DEPARTMENT OF NATURAL RESOURCES
MADISON, WISCONSIN

MR. FRANGOS: Mr. Chairman, we have just supplied the conferees with a summary of the status of municipalities and industries in Wisconsin. The basis has been reported to the conference.

This report provides the change in status of waste discharge sources in the Wisconsin section of the Lake Superior drainage basin since the January 14-15, 1971, Lake Superior Enforcement Conference.

The Wisconsin Attorney General has filed suit against the cities of Ashland, Bayfield, Hurley and Washburn, and the department has proposed stipulations requiring completion of adequate treatment facilities by late 1972.

A court judgment and agreement have been reached with Pureair Sanatorium calling for joint treatment with Pike's Bay Marina and completion of facilities by December 31, 1971.

Although the city of Superior is exploring NEMDA interstate treatment arrangements, they have nevertheless submitted plans for their own secondary treatment plant and phosphorus removal system and applied for financial assistance to proceed independently if that is required.

The E. I. Du Pont de Nemours Company at Barksdale discontinued TNT operations late last month.

Orders were issued on July 31, 1970 to commercial and industrial establishments in the Superior area primarily for connection to municipal sewers or for the construction of adequate private treatment facilities. Of the 16 entities involved five have complied with orders, and indications are that the others are taking steps to provide satisfactory treatment within the deadline dates.

(The tabulated portion of the above statement follows.)

## WISCONSIN WASTEWATER SOURCES AFFECTING LAKE SUPERIOR

Page 1
Municipalities
April 21, 1971

| Source (Order No.) | Receiving Waters | Existing Treatment | Remedial Needs | Implementation Date | Status | Comments |
|---|---|---|---|---|---|---|
| Ashland<br>(1-68-2)<br>(4B-70-28-18) | Lake Superior | Primary<br>Disinfection | Secondary*<br>Clear Water<br>Phosphorus | 10/1/70<br>10/1/77<br>12/31/74 | Preliminary report approved. Referred to A.G. Suit filed. | DNR proposed stipulation - completion by 11/72. |
| Bayfield<br>(1-68-4) | Lake Superior | Primary<br>Disinfection | Secondary*<br>Clear Water | 10/1/70<br>10/1/77 | Preliminary report approved. Referred to A.G. Suit filed. | DNR proposed stipulation - completion by 11/72. |
| Hurley<br>(1-68-11)<br>(4B-70-28-19) | Montreal River | Primary<br>Disinfection | Secondary*<br>Clear Water<br>Phosphorus | 10/1/70<br>10/1/77<br>12/31/74 | Referred to A.G. Suit filed. Received preliminary report. Negotiating with Ironwood, Mich., for joint treatment. | DNR proposed stipulation - completion by 11/72. |
| Superior<br>(1-68-26)<br>(4B-70-28-17) | Lake Superior | Primary<br>Disinfection | Secondary*<br>Clear Water<br>Phosphorus | 10/1/70<br>10/1/77<br>12/31/74 | Considering NEMDA. Final plans for their own system received. | City proposes completion by 12/72. Grant-in-aid application received 3/22/71. |
| Washburn<br>(1-68-30) | Lake Superior | Primary<br>Disinfection | Secondary*<br>Clear Water | 10/1/70<br>10/1/77 | Preliminary report approved. Referred to A.G. Suit filed. | DNR proposed stipulation - completion by 10/72. |
| Pureair Sanatorium | Drainage Course Leading to Lake Superior | Septic Tank | | | Referred to A.G. Circuit court judgement. | Submit plans for joint treatment with Pike's Bay Marina by May 1, 1971. Begin construction by 8/1/71. Complete construction by 12/31/71. |

*As required by Interstate Water Quality Standards Implementation Plan.

WISCONSIN WASTEWATER SOURCES AFFECTING LAKE SUPERIOR

Page 1
Industries
April 21, 1971

| Source (Order No.) | Receiving Waters | Existing Treatment | Remedial Needs | Implementation Date | Status | Comments |
|---|---|---|---|---|---|---|
| Superior Fiber Prod. Co., Superior (1-68-26) | Lake Superior | Chemical and Screening | San. Sew. Trt.<br>Ind. Waste Trt.* | 10/1/70 | Referred to A.G. Suit filed. Pre-trial conference to be scheduled. | In-plant reduction: Flow - 75%; SS - 47%; BOD - 7%. |
| American Can Co., Ashland (1-68-3) | Lake Superior | Mechanical Centrifuge Clarifier | None | None | Satisfied state order. Additional treatment needs to be evaluated. | Improvements have been implemented to optimize treatment. Total suspended solids - 16 lbs. per ton of paper produced. BOD (5-day) - 14 lbs. per ton of paper produced. |
| E. I. Du Pont de Nemours, Barksdale (1-68-7) | Boyds Creek | Neutralization Flow Equalization | Adeq. Ind. Waste Treatment | 10/1/70 | Discontinued manufacture of TNT as of 3/31/71. | |
| ADM Grain Co., Superior (4B-70-28-1) | St. Louis Bay | | San. Sew. Treatment | None | State order requiring adequate treatment by 10/1/71. | Order compliance being reviewed. |
| Burlington & Northern R.R., Superior (4B-70-28-2) | Superior Bay | None | San. Sewage Treatment | None | State order requiring adequate treatment by 10/1/71. | Letter of 11/19/70 outlining proposal for compliance by connection to city. |
| Cutler-LaLiberte, Superior (4B-70-28-3) | Superior Bay | City | Sanitary Sewage Trt. | None | State order requiring adequate treatment by 10/1/71. Satisfied. | Connection to city sewerage system completed. No pollution. |

# WISCONSIN WASTEWATER SOURCES AFFECTING LAKE SUPERIOR

Page 2
Industries
April 21, 1971

| Source (Order No. | Receiving Waters | Existing Treatment | Remedial Needs | Implementation Date | Status | Comments |
|---|---|---|---|---|---|---|
| Douglas County Fairgrounds, Superior (4B-70-28-4) | Surface Drainage | City (Partially) | Eliminate health hazard | None | State order requiring adequate treatment by 12/1/70. | Part of facilities completed. No pollution. |
| Exports, Inc. Superior (4B-70-28-5) | St. Louis Bay | City | Sanitary Sewage Treatment | None | State order requiring adequate treatment by 12/1/70. Only existing washroom has been disconnected. | New washroom under construction. No pollution. |
| Farmers Union GTA, Superior (4B-70-28-6) | St. Louis Bay | City | Sanitary Sewage Treatment | None | State order requiring adequate treatment by 10/1/71. Satisfied. | Connection to municipal system completed on 3/24/71. No pollution. |
| Frazer Shipyards, Superior (4B-70-28-7) | St. Louis Bay | City (Partially) | Sanitary Sewage Treatment | None | State order requiring adequate treatment by 10/1/71. | One sewer connection completed. Second lift station being installed. |
| Dr. Garvey Animal Hosp., Superior (4B-70-28-8) | Nemadji River | None | Sanitary Sewage Treatment | None | State order requiring adequate treatment by 10/1/71. | |
| Globe Elevator, Superior (4B-70-28-9) | St. Louis Bay | None | Sanitary Sewage Treatment | None | State order requiring adequate treatment by 10/1/71. | |
| Great Lakes Coal & Dock Company Superior (4B-70-28-10) | St. Louis Bay | None | Sanitary Sewage Treatment | None | State order requiring adequate treatment by 10/1/71. | Plans approved on 11/12/71 for soil absorption system. Construction has started. |

## WISCONSIN WASTEWATER SOURCES AFFECTING LAKE SUPERIOR

| Source (Order No.) | Receiving Waters | Existing Treatment | Remedial Needs | Implementation Date | Status | Comments |
|---|---|---|---|---|---|---|
| Huron Portland Cement Company, Superior (4B-70-28-11) | Superior Bay | None | Sanitary Sewage Treatment | None | State order requiring adequate treatment by 10/1/71. | Sewerage line to municipal system complete. Lift station on site but not installed. |
| M & O Elevators, Inc., Superior (4B-70-28-12) | Superior Bay | None | Sanitary Sewage Treatment | None | State order requiring adequate treatment by 10/1/71. | Construction of connection to municipal system started. |
| Northern Engrg. Co., Superior (4B-70-28-13) | St. Louis Bay | City | Sanitary Sewage Treatment | None | State order requiring adequate treatment by 10/1/70. Satisfied. | Sewer connection completed by 10/1/70. |
| Peavy Flour Mills, Superior (4B-70-28-14) | Superior Bay | None | San. Sew. Trt.<br>Ind. Waste Trt. | None | State order requiring adequate treatment by 10/1/71. | Plans for connection completed. Bids may be let by 5/1/71. |
| C. Reiss Coal Co., Superior (4B-70-28-15) | Superior Bay | None | San. Sew. Trt. | None | State order requiring adequate treatment by 10/1/71. | Plan approved. Construction to begin whe weather permits. |
| Soo Line R.R., Superior (4B-70-28-16) | St. Louis Bay | Soil Absorption | San. Sew. Trt. | None | State order requiring adequate treatment by 10/1/71. Satisfied. | Disposal facilities completed as of 11/24/70. |

4/21/71
JMH:jm

MR. DOMINICK: Any comment or questions on the report of the State of Wisconsin?

State of Michigan, please.

MR. F. B. FROST
CHIEF ENGINEER
MICHIGAN WATER RESOURCES COMMISSION
LANSING, MICHIGAN

MR. FROST: Mr. Chairman, I must apologize for not having a written report because time did not permit this. I can comment in a general way by stating that all municipal and industrial discharges into Lake Superior or its tributaries within Michigan are now under final orders or stipulations. Any instance where noncompliance with a time schedule may occur, the matter is referred to the Attorney General. We expect that all discharges will be complied with at least, or on the date that has been recommended by this conference.

A written report can be furnished the conferees.

MR. STEIN: Mr. Frost, how long will it take for that report?

MR. FROST: It can be ready by the end of next week, sir.

MR. STEIN: All right.

(The above-mentioned report follows.)

# MICHIGAN'S INDUSTRIAL WASTEWATER DISCHARGES IN THE LAKE SUPERIOR BASIN

(AS OF APRIL 15, 1971)

| Receiving Basin & Company Name | Location | Receiving Stream | Treatment Provided | 1970 Wastewater Control Status | Final Order of Deter. No. or Voluntary Stipulation | Date Adopted | Submit Prelim. Eng. Report | Submit Detailed Specs. | Initiate Construction | Complete Construction | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Lake Superior | | | | | | | | | | | |
| a. Kimberly-Clark Corp. | Munising | Lake Superior | Chemical precipitation and settling | A | --- | --- | --- | --- | --- | --- | Control adequate. |
| b. City of Marquette Board of Light and Power | Marquette | Lake Superior | Settling pond for removal of flyash | A | Order of Det. #1449 | 12/16/70 | ---- | --- | --- | --- | * |
| c. Upper Peninsula Generating. Co. (Presque Isle Sta.) | Marquette | Canal to Lake Superior | Settling pond for removal of flyash | A | Order of Det. #777 | 7/29/65 | --- | --- | --- | --- | * |
| 2. Montreal River Basin | | | | | | | | | | | |
| a. Auvinens Grocery (slaughterhouse) | Ironwood | Ground waters | Septic tank & tile field. | B | --- | --- | --- | --- | --- | --- | * |
| b. Maki, William (slaughterhouse) | Ironwood | Montreal River | Septic tank & tile field. | B | --- | --- | --- | --- | --- | --- | * |
| c. Superior Packing Co. | Ironwood | Ground waters | Septic tank & tile field | A | --- | --- | --- | --- | --- | --- | Control adequate. |
| 3. Black River Basin | | | | | | | | | | | |
| NO MAJOR INDUSTRIES IN BASIN | | | | | | | | | | | |
| 4. Presque Isle River Basin | | | | | | | | | | | |
| NO MAJOR INDUSTRIES IN BASIN | | | | | | | | | | | |
| 5. Mineral River Basin | | | | | | | | | | | |
| a. White Pine Copper Co. | White Pine | Mineral River | Chemical precipitation and settling | A | Stip. | 8/20/70 | 9/1/71 | 6/1/72 | 10/1/72 | 1/1/74 | Control adequate. |
| b. White Pine Copper Co., Tolfrey Shaft | White Pine | Tolfrey and Argentine Creeks | Secondary treatment for sanitary sewage | A | Order of Det. #936 | 10/27/66 | --- | --- | --- | --- | Control adequate. |
| 6. Ontonagon River Basin | | | | | | | | | | | |
| a. Hoerner-Waldorf, Inc. | Ontonagon | Ontonagon River | Save-all, sanitary to municipality | E | Stip. | 7/23/70 | 9/1/71 | 6/1/72 | 8/1/72 | 1/1/74 | Secondary treatment required. |
| b. Nordine, Thomas, Laundromat | Bruce Crossing | Ground waters | Lagoon | A | Order of Det. #1104 | 2/21/68 | --- | --- | --- | --- | |
| c. Ontonagon Valley Co-op Creamery | Bruce Crossing | Clear Creek | Haul whey away | B | --- | --- | --- | --- | --- | --- | Control adequate. |
| 7. Misery River Basin | | | | | | | | | | | |
| a. Lake Superior Engineering, Inc. | Winona | Winona Creek Ground waters | Seepage to ground waters | B | Order of Det. #968 | 3/28/67 | --- | --- | --- | --- | Order of Det. covers mine water pumpage. |
| 8. Portage River Basin | | | | | | | | | | | |
| a. Bosch Brewing Co. | Houghton | Portage Lake | Settling screens, sanitary to septic tank & tile field | A | --- | --- | --- | --- | --- | --- | |
| 9. Sturgeon River Basin | | | | | | | | | | | |
| NO MAJOR INDUSTRIES IN BASIN | | | | | | | | | | | |

| Receiving Basin & Company Name | Location | Receiving Stream | Treatment Provided | 1970 Wastewater Control Status | Final Order of Deter. No. or Voluntary Stipulation | Date Adopted | Submit Prelim. Eng. Report | Submit Detailed Specs. | Initiate Construction | Complete Construction | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10. Falls River Basin | | | | | | | | | | | |
| a. Celotex Corp. | L'Anse | Ground waters | Lagoons and spray irrigation | A | Order of Det. #820 | 1/21/66 | --- | --- | --- | --- | Control adequate. |
| b. Upper Peninsula Power Co., (J. H. Warden Sta.) | L'Anse | Falls River | No treatment of cooling waters | A | Order of Det. #273 | 8/21/58 | --- | --- | --- | --- | Control adequate. |
| 11. Dead River Basin | | | | | | | | | | | |
| a. Bancroft Dairy, Inc. | Marquette | Creek and Dead River | Septic tank | E | --- | --- | --- | --- | --- | --- | Notice adopted at April WRC meeting. |
| b. City of Marquette Board of Light and Power, Diesel Plant | Marquette | Dead River | Oil separation in sump | A | --- | --- | --- | --- | --- | --- | |
| c. Upper Peninsula Power Co. (Presque Isle Sta.) | Marquette | Dead River | Ash pond lagoon | A | Order of Det. #777 | 7/29/65 | --- | --- | --- | --- | * |
| 12. Carp River Basin | | | | | | | | | | | |
| a. Cleveland Cliffs Iron Co. (Ore Improvements Plant) | Negaunee | Ground waters | Settling ponds | A | Order of Det. #242 | 5/22/57 | --- | --- | --- | --- | Control adequate. |
| b. Cleveland Cliffs Iron Co. (Pioneer Pellet Plant) | Negaunee | Ground waters | Settling ponds | A | Order of Det. #242 | 5/22/57 | --- | --- | --- | --- | Control adequate. |
| c. Cleveland Cliffs Iron Co. (Eagle Mills Pellet Plant) | Negaunee | Ground waters | Settling ponds | A | Order of Det. #242 | 5/22/57 | --- | --- | --- | --- | Control adequate. |
| d. Hercules, Inc. | Ispheming | | Septic tank | B | --- | --- | --- | --- | --- | --- | * |
| e. Northern Automatic Electric Foundry | Ishpeming | Ground waters | Settling and cooling ponds | A | Order of Det. #1208 | 10/23/68 | --- | --- | --- | --- | Control adequate. |
| 13. Chocolay River Basin | | | | | | | | | | | |
| a. Sicotte, James Auto. Laundry | Harvey | Ground waters | Lagoon | B | --- | --- | --- | --- | --- | --- | |
| 14. AuTrain River Basin | | | | | | | | | | | |
| NO MAJOR INDUSTRIES IN BASIN | | | | | | | | | | | |
| 15. Two-Hearted River Basin | | | | | | | | | | | |
| NO MAJOR INDUSTRIES IN BASIN | | | | | | | | | | | |
| 16. Tahquamenon River Basin | | | | | | | | | | | |
| NO MAJOR INDUSTRIES IN BASIN | | | | | | | | | | | |
| 17. Waiska River Basin | | | | | | | | | | | |
| a. Lake Superior Beef | Dafter | Ground waters | | A | --- | --- | --- | --- | --- | --- | * |

NOTE: *Not included in the August 1970 report for the Reconvened Third Session on Pollution of the Interstate Waters of Lake Superior and its Tributary Basin.

# MICHIGAN'S MUNICIPAL WASTEWATER DISCHARGES TO SURFACE WATERS OF THE LAKE SUPERIOR BASIN

(As of April 15, 1971)

| River Basin | Community | Final Order of Determination No. or Voluntary Stipulation | Date Adopted | Retain Engineers | Submit Preliminary Engineering Report | Initiate Detailed Plans and Specifications | Submit Detailed Specifications | Arrange Financing | Initiate Construction | Complete Construction | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Montreal River | | | | | | | | | | | |
| | a. Erwin Twp. | --- | --- | --- | --- | --- | --- | --- | --- | --- | |
| | b. Ironwood | --- | --- | --- | --- | --- | --- | --- | --- | --- | Preliminary engineering report for phosphorous removal and stormwater control approved 2/9/71. |
| | c. Ironwood Twp. | --- | --- | --- | --- | --- | --- | --- | --- | --- | Preliminary plans for improved treatment received 5/5/69. |
| Black River | | | | | | | | | | | |
| | a. Bessemer | FOD #1333 | 12/10/69 | 1/10/70 | 6/1/70 | 7/1/70 | 1/1/71 | 3/1/71 | 4/1/71 | 12/1/71 | Not in compliance. Show cause hearing scheduled. |
| | b. Bessemer Twp. (Ramsay) | FOD #1303 | 9/17/69 | 10/17/69 | --- | --- | 6/1/70 | 7/1/70 | 8/1/70 | 12/1/71 | In compliance. |
| | c. Wakefield | --- | --- | --- | --- | --- | --- | --- | --- | --- | Treatment satisfactory. |
| Presque Isle River | | | | | | | | | | | |
| | a. Marenisco Twp., (Marenisco) | --- | --- | --- | --- | --- | --- | --- | --- | --- | Preliminary plans received. |
| Mineral River | | | | | | | | | | | |
| | a. White Pine | Stip. | 8/20/70 | 12/1/70 | 9/1/71 | 11/1/71 | 6/1/72 | 9/1/72 | 10/1/72 | 1/1/74 | In compliance. Stip. for phosphorus removal. |
| Ontonagon River | | | | | | | | | | | |
| | a. Bergland Twp. (Bergland) | FOD #1442 | 11/13/70 | 12/13/70 | --- | --- | 5/1/71 | 9/1/71 | 10/1/71 | 11/1/72 | In compliance. Detailed specifications approved 11/25/70. |
| | b. Stannard Twp. (Bruce Crossing) | FOD #1444 | 11/13/70 | 12/13/70 | --- | --- | 5/1/71 | 9/1/71 | 10/1/71 | 11/1/72 | In compliance. Detailed specifications approved 12/21/70. |
| | c. McMillan Twp. (Ewen) | FOD #1443 | 11/13/70 | 12/13/70 | --- | --- | 5/1/71 | 9/1/71 | 10/1/71 | 11/1/72 | In compliance. Detailed specifications approved 12/21/70. |
| | d. Ontonagon | FOD #1418 | 9/17/70 | 12/1/70 | 9/1/71 | 11/1/71 | 6/1/72 | 9/1/72 | 10/1/72 | 1/1/74 | In compliance. FOD for secondary treatment and phosphorus removal. |
| | e. Rockland Twp. (Rockland) | --- | --- | --- | --- | --- | --- | --- | --- | --- | Preliminary plans approved 2/30/70. |
| | f. Watersmeet | --- | --- | --- | --- | --- | --- | --- | --- | --- | Treatment satisfactory. |
| Flintsteel River | | | | | | | | | | | |
| | a. Greenland Twp. (Mass-Greenland) | --- | --- | --- | --- | --- | --- | --- | --- | --- | Preliminary plans received. |
| Portage Lake | | | | | | | | | | | |
| | a. Baltic | --- | --- | --- | --- | --- | --- | --- | --- | --- | * |
| | b. Calumet | --- | --- | --- | --- | --- | --- | --- | --- | --- | No discharge to surface water. |
| | c. Calumet Twp. (Copper City) | --- | --- | --- | --- | --- | --- | --- | --- | --- | * |
| | d. Hancock & Houghton | FOD #1417 | 9/17/70 | 12/1/70 | 9/1/71 | 11/1/71 | 6/1/72 | 9/1/72 | 10/1/72 | 1/1/74 | In compliance. FOD for phosphorus removal against Portage Lake Water & Sewer Authority. |
| | e. Hubbel | --- | --- | --- | --- | --- | --- | --- | --- | --- | Engineers employed. |
| | f. Lake Linden | --- | --- | --- | --- | --- | --- | --- | --- | --- | Corrective action underway. |

| River Basin | Community | Final Order of Determination No. or Voluntary Stipulation | Date Adopted | Retain Engineers | Submit Preliminary Engineering Report | Initiate Detailed Plans and Specifications | Submit Detailed Specifications | Arrange Financing | Initiate Construction | Complete Construction | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | g. Laurium | --- | --- | --- | --- | --- | --- | 6/1/70 | 7/1/70 | 12/1/70 | Not in compliance. Current dates adopted by circuit court summary judgement. Contracts awarded subject to sale of bonds. |
| | h. Painesdale | --- | --- | --- | --- | --- | --- | --- | --- | --- | Engineering studies underway. |
| | i. Portage Twp. | --- | --- | --- | --- | --- | --- | --- | --- | --- | * |
| | j. Adams Twp. (South Range) | --- | --- | --- | --- | --- | --- | --- | --- | --- | Preliminary plans received 5/25/70. |
| Hills Creek | | | | | | | | | | | |
| | a. Allouez Twp. (Ahmeek) | --- | --- | --- | --- | --- | --- | --- | --- | --- | Preliminary plans for secondary treatment approved. |
| | b. Allouez Twp. (Allouez) | --- | --- | --- | --- | --- | --- | --- | --- | --- | Corrective action underway. |
| | c. Mohawk | --- | --- | --- | --- | --- | --- | --- | --- | --- | Preliminary plans received. |
| Tobacco River | | | | | | | | | | | |
| | a. Gay | --- | --- | --- | --- | --- | --- | --- | --- | --- | * |
| Linden Creek | | | | | | | | | | | |
| | a. L'Anse | Stip. | 7/24/70 | 12/1/70 | 9/1/71 | 11/1/71 | 6/1/72 | 9/1/72 | 10/1/72 | 1/1/75 | In compliance. Stipulation for phosphorus removal. |
| Carp River | | | | | | | | | | | |
| | a. Powell Twp. (Big Bay) | --- | --- | --- | --- | --- | --- | --- | --- | --- | Engineers employed. |
| | b. Ishpeming | FOD #1471 | 2/19/71 | 4/1/71 | 11/1/71 | 1/1/72 | 7/1/72 | 10/1/72 | 11/1/72 | 1/1/74 | In compliance. FOD for phosphorus removal. |
| | c. Ishpeming Twp. A & B | FOD #1413 | 9/17/70 | 12/1/70 | 9/1/71 | 11/1/71 | 6/1/72 | 9/1/72 | 10/1/72 | 1/1/74 | In compliance. FOD for phosphorus removal. |
| | d. Marquette | FOD #1452 | 12/16/70 | 1/1/71 | 1/1/72 | 3/1/72 | 3/1/73 | 3/1/73 | 5/1/73 | 1/1/74 | In compliance. FOD for secondary treatment and phosphorus removal. |
| | e. Negaunee | FOD #1414 | 9/17/70 | 12/1/70 | 9/1/71 | 11/1/71 | 6/1/72 | 9/1/72 | 10/1/72 | 1/1/74 | In compliance. FOD for phosphorus removal. |
| AuTrain River | | | | | | | | | | | |
| | a. Chatham | --- | --- | --- | --- | --- | --- | --- | --- | --- | Corrective action underway. |
| Anna River | | | | | | | | | | | |
| | a. Munising | FOD #1416 | 9/17/70 | 12/1/70 | 9/1/71 | 11/1/71 | 6/1/72 | 9/1/72 | 10/1/72 | 1/1/74 | In compliance. FOD for secondary treatment and phosphorus removal. |
| Tahquamenon River | | | | | | | | | | | |
| | a. Newberry | FOD #1415 | 9/17/70 | 12/1/70 | 9/1/71 | 11/1/71 | 6/1/72 | 9/1/72 | 10/1/72 | 1/1/74 | In compliance. FOD for phosphorus removal. |
| Direct Discharge to Lake Superior | | | | | | | | | | | |
| | a. Baraga | FOD #1376 | --- | --- | --- | --- | 7/1/70 | 9/1/70 | 10/1/70 | 10/1/71 | Not in compliance. Detailed specifications not approved. Referred to Attorney General for enforcement. |

NOTE: *Governmental unit has been notified that it is in violation of Section 6B, Act 245. Voluntary corrective action is being sought.

( ) Indicates an unincorporated community.

MR. DOMINICK: Very well. Any comments on Michigan's report? State of Minnesota.

MR. MERRITT: Yes, Mr. Chairman. At this time I will call on Mayor Ben Boo of the city of Duluth, who I believe is out in the other room, and would like to speak in reference to Duluth. And since he's here I'd like to have him go ahead, and then I'll have a report and copies which we will distribute later in the day of our total Minnesota report if that is satisfactory. Mayor Boo is right out here.

THE HONORABLE BEN BOO

MAYOR, CITY OF DULUTH

DULUTH, MINNESOTA

MAYOR BOO: If I may, Mr. Chairman, I will defer the specific remarks about the Superwood problem to one of our city engineers who is in the room with me, and he will present that in a more technical basis immediately following my remarks.

I would rather, if I may then, just bring you up to date on the regional sewer concept as proposed in this area. And as we said some 4 months ago at a conference such as this, that if this couldn't be done within a stipulated time -- and I suggest here today that the legislature will pass this week -- that the regional concept will become a reality; that two reputable engineering firms are now actively involved in designing of the system, and we are trying to this date employ an executive secretary to employ his own full time staff; that we are expecting a $300,000 State loan for start of one immediately; and that our only failure to date has been the inability of our two Governors -- Wisconsin and Minnesota -- to resolve some relatively simple legislation to permit joint State agreements so that Superior and Duluth and Cloquet and the area above us can resolve this problem as one. We are having difficulty.

I think both Governors have inferred concurrence with the concept. We do not have any disagreement on their part, but we are hung up on bureaucracy again. This would be our major failure to date.

We have had some difficulty with the State planning agent -- Minnesota's. We wished to get sufficiently demonstrated some force to resolve the overlapping planning responsibilities. This has delayed us somewhat in planning money, but the city of Duluth has been advancing cash to the planning, hopefully expecting to get our money back one day.

With that, I'll defer to our engineer to report on Superwood, O.K.?

MR. MERRITT: Thank you, Mayor.

MAYOR BOO: Any questions?

MR. DOMINICK: Thank you. How long will the engineering report take?

MR. JAMES JOHNSON
SUPERINTENDENT OF SANITARY SERVICES
DULUTH, MINNESOTA

MR. JOHNSON: My name is James Johnson. I am Superintendent of Sanitary Services for the city of Duluth.

Connection of Superwood Corporation to the city of Duluth Municipal Collection System.

On December 23, 1970 the city of Duluth was advised by the Director of the Minnesota Pollution Control Agency, of a revision in the stipulation between the city and the agency which incorporated a timetable to develop an interceptor sewer to connect Superwood, Inc. to the Municipal Sewer System. The timetable was as follows:

January 15, 1971 - Furnish to agency and Superwood a preliminary draft of joint commitment or agreement with Superwood for construction of interceptor sewer and future sewer service.

February 15, 1971 - Furnish to the agency for approval an executed committment or agreement with Superwood, as above, and submit preliminary engineering report on Superwood interceptor.

March 15, 1971 - Authorize preparation of final plans for Superwood interceptor.

June 14, 1971 - Authorize its consulting engineer to prepare final construction plans and specifications for secondary treatment works, including phosphorus reduction.

June 15, 1971 - Submit final plans for Superwood interceptor.

August 15, 1971 - Solicit bids and award contract for Superwood interceptor.

November 26, 1972 - Complete construction of Superwood interceptor.

May 15, 1973 - Require Superwood to commence discharging its wastes into the interceptor, if so requested by the agency.

From October 1970 through March 1971 the city has received copies of reports to the Minnesota Pollution Control Agency from Superwood of the continued decrease in daily volume flows from 1.5 MGD down to 500,000 gallons per day with possibilities of even greater reductions. In view of this, the city has been unable to finalize engineering design and the agreement.

On January 12, 1971 the interceptor preliminary plant, as proposed by the city, was presented to Superwood officials based on the average daily flow of 1 MGD.

This figure was presented to the city on December 10, 1970 by

Superwood and negotiations with the firm continued to up until April 8, 1971, at which time the city and Superwood officials met with the Minnesota Pollution Control Agency staff to resolve the progress deficiency in the matter of an agreement between the city and Superwood. An adjustment to the schedule was presented, allowing Superwood to complete its inplant studies, with the completion date for the construction of the interceptor remaining the same. The agency passed the schedule adjustment on their meeting of April 19, 1971. The timetable as adjusted is now as follows:

| | |
|---|---|
| June 15, 1971 - | Firm figure from Superwood on flow and strength of effluent to city system. |
| July 15, 1971 - | Agreement between city and Superwood signed. |
| August 15, 1971 - | Final construction plans of Superwood interceptor submitted to the agency. |
| November 15, 1971 - | Contract awarded to successful bidder. |
| November 15, 1972 - | Final completion of Superwood interceptor. |

Sir, this completes the report on Superwood.

MR. MERRITT: Thank you, Mr. Johnson.

Are there any questions by the conferees of either Mayor Boo or Mr. Johnson?

MR. STEIN: I have one comment. This raises the question again of unilateral extension of the date by the State agency, the city. As I see it, what you have done now essentially is delay by three months the awarding of the contract for the interceptor from August 15 to November 15.

MR. JOHNSON: That is correct, sir.

MR. STEIN: This won't have anything to do with the construction season up here? Or are they going to start digging right away after you award the contract in November? Or are you going to have to wait for spring?

MR. JOHNSON: No. This project will require one construction season, and it is felt that the project can be completed as the original time schedule.

MR. STEIN: Sir, I would suggest in the future before you and the State extend these dates, you may want to get in touch with our Regional Office because you are obliged under our law to look at these very carefully.

MR. JOHNSON: Yes, sir.

MR. DOMINICK: Mr. Merritt, I will second that and ask that you submit to the conferees while the record is still open the original implementation schedule that was imposed on the city of Duluth. With specific reference to the Superwood collection system I ask that you indicate what proposal the State of Minnesota is making with respect to extensions of those previously established dates. We will have to evaluate that very carefully. It is disturbing, as Mr. Stein has indicated, to see unilateral extensions being suggested of this nature.

MR. MERRITT: Yes, Mr. Chairman. As you will note, as Mr. Johnson has pointed out, we have not extended the final completion date. As a matter of fact, it is some 11 days earlier. But we will be pleased to take the steps that you suggest, and you will receive those reports forthwith.

MR. DOMINICK: Very well.

(The above-mentioned reports follow.)

# STATE OF MINNESOTA

## POLLUTION CONTROL AGENCY

### Statement for Lake Superior Enforcement Conference of April 22 and 23, 1971

The following comments are intended to provide up-to-date information on developments since the January meeting. They relate primarily to the remaining relevant recommendations contained in the U.S. Environmental Protection Agency summaries dated January 26 and December 31, 1970, and recommendations made by the conferees in January, 1971.

RECOMMENDATION 1: In August, 1970, it was recommended by the Conference that the states hold hearings within six months on adopting as standards the recommended criteria of the Lake Superior Water Quality Technical Committee for the open waters of Lake Superior. Thereafter, the staff of the Agency prepared a proposal for a regulation to establish standards for the open waters of Lake Superior, and a public hearing on its adoption was held on February 17 in Duluth and April 19 in Minneapolis. The reception accorded the proposed regulation was almost unanimously negative. The Agency is, therefore, deferring any further action on such standards, at least until more convincing evidence is furnished as to the need for additional water quality standards as opposed to base-line criteria.

RECOMMENDATION 4: As noted in January, a federal grant application has been prepared to expand our current contract study on the prevalence of pesticide residues in the waters of the basin to include mercury, lead and some other metals, and polychlorinated biphenyls. The application has not been submitted to the Federal Water Quality Office for consideration because funding for the matching state portion is not yet available. To our knowledge, there are as yet no data available from the contract study of pesticideresidues which was approved by the Federal Water Quality Office in October, 1969.

RECOMMENDATION 5: Except for the Village of Carlton, stipulations for completion of secondary treatment works on or before January, 1974, have been entered into with the Agency by all of the municipalities which do not already have secondary treatment and which discharge to or affect interstate waters. Some of these municipalities are beginning to lag behind the current requirements of the Action Plan set forth in Attachment A, which plan includes submission of a preliminary engineering report by March 1, 1971, and authorization by April 1, 1971, for preparation of final plans. A summary of the current status of each such municipality is given in Attachment B.

The lag in many cases relates to the proposal by the Northeastern Minnesota Development Association for a regional approach to sewage disposal in the Duluth-Superior-Cloquet area, which was presented to you in January. I will not repeat the details of the proposal, but it should be noted that compliance with Agency approved interim schedules was deferred until mid-June to give the proponents time to obtain from the 1971 Legislature the necessary enabling statutes for formation of the district. In the interim, the dates for completion of construction remain in effect.

The proposal has been incorporated in a bill for creation of the Western Lake Superior Sanitary District. The bill appears to have the support of virtually all of the area legislators, and its passage appears likely, based on the subcommittee hearings to date. It is as yet too early to tell how much time will be needed to organize the district and construct the proposed new collection and treatment works.

RECOMMENDATION 8: The Agency on April 19 considered the issuance of orders to the municipalities and industries listed in Attachment C to require the reduction of phosphorus in their effluents to the level of one milligram per liter. The classifications and effluent standards (Regulations WPC 25 through 28) on which these orders will be based are being appealed by Reserve Mining Company.

RECOMMENDATION 9: The general comments made previously in regard to municipalities under Recommendations 5 and 8 apply also to the industries involved with this recommendation for equivalent treatment. A stipulation is being prepared to encompass the agreement reached by the Agency on June 19, 1970, with the U.S. Steel Company concerning the Duluth works. You will recall that this agreement was presented to the conferees and accepted at the August, 1970, session. The industries which already have stipulated are listed in Attachment B; the others, in Attachment C.

RECOMMENDATION 16: A bill has been introduced in the 1971 Legislature which would modify our existing statutes relating to marine toilets. Senate File 694 would repeal Section 361.29 and limit the use of marine toilets to those connected to complete retention units for all watercraft operating on Minnesota waters. The bill would require compliance by April 1, 1974, and also would empower the Agency at its discretion to require a marina to provide dockside tanks and facilities for discharge and disposal of the contents of such storage units. The bill has been referred from a sub-committee to the Committee on Natural Resources and Environment.

Some of the more noteworthy developments since January include the report of the Taconite Tailings Technical Committee and related actions, the public hearing on Open Water Standards for Lake Superior; and the bills pending to create the Western Lake Superior Sanitary District, modify present marine toilet statutes, and provide for a state program of grants for construction of municipal sewage works. Other items of progress include substantial indications by Conwed and Superwood that major reductions in the flow and pollutional content of their wastes can be made by further closing of their process systems; by the stipulation of Hoyt Lakes to reduce the phosphorus in its effluent;

by approval of plans for a larger ash disposal basin at the Aurora Steam Electric Station of the Minnesota Power and Light Company; by the retaining of consulting engineers by Aurora, Chisholm, and Nichols Township of St. Louis County; by the receipt of preliminary engineering reports from the Abex Corporation of Two Harbors and from Kinney; and by completion of improvements by the R. J. Reynolds Foods Co. of Duluth sufficient to comply with all current requirements.

Those responsible for wastes discharged into the Lake Superior basin have been requested to be present in order to furnish detailed information on their situation. I shall be glad to call upon them or provide whatever additional information may be desired by the conferees for their deliberations in this matter.

Thank you.

Grant J. Merritt
Executive Director

Attachments:

A. Preliminary Action Plan and Completion Schedule for Construction of Treatment Works to Conform with Recommendations of Lake Superior Enforcement Conference as Set Forth in Summary of January 26, 1970

B. Status of Scheduled Construction of Works for Treatment of Wastes which are Discharged to Waters of the Lake Superior Basin

C. Remaining Non-Conforming Sources of Sewage and Industrial Wastes Discharged in the Lake Superior Basin for which Additional Treatment or Control may be Necessary for Compliance with Recommendations of Enforcement Conference

MINNESOTA POLLUTION CONTROL AGENCY
Division of Water Quality

## Preliminary Action Plan and Completion Schedule for Construction of Treatment Works to Conform with Recommendations of Lake Superior Enforcement Conference as set forth in Summary of January 26, 1970

April, 1970

| Waste Treatment and/or Control Task | Listed in FY 70 I & E Plan with Requirement for Nutrient Reduction(1) | Other Sources which Discharge to or otherwise affect Interstate Waters(2) | Sources which otherwise affect only Intrastate Waters(3) |
|---|---|---|---|
| Effluent disinfection or equivalent | ---- | May, 1970 | May, 1970 |
| Retain consulting engineer | ---- | Sept., 1970 | Sept., 1970 |
| Engineering report on secondary treatment and/or phosphorus reduction | March, 1971 | March, 1971 | March, 1971 |
| Authorize final plans | April, 1971 | April, 1971 | April, 1971 |
| Final plans on secondary treatment and/or phosphorus reduction | Oct., 1971 | Oct., 1971 | Oct., 1971 |
| Engineering report on sewer separation | Oct., 1971 | Oct., 1971 | Oct., 1971 |
| Financing arrangements | Jan., 1972 | Jan., 1972 | Jan., 1972 |
| Award contract for secondary works and/or phosphorus reduction | April, 1972 | April, 1972 | April, 1972 |
| Initial contract for sewer separation | April, 1972 | April, 1972 | April, 1972 |
| Secondary works completed and in operation | Nov., 1973 | Nov., 1973 | Jan., 1975 |
| Tertiary works completed and in operation | Nov., 1973 | Jan., 1975 | Jan., 1975 |
| Sewer separation projects completed | Nov., 1979 | Nov., 1979 | Nov., 1979 |

(1) Included only municipalities which discharge sewage directly to an interstate lake, bay or reservoir.
(2) Normally includes some sources not discharging directly to interstate waters but which because of proximity or inadequate treatment may violate standards for interstate waters.
(3) Except for possible discharge of nutrients.

## Division of Water Quality

## Status of Scheduled Construction[1] of Works for Treatment of Wastes which are Discharged to Waters of the Lake Superior Basin

April 12, 1971

| Source and Remaining Control Tasks | Status |
|---|---|
| Cloquet | |
| Operation of pilot plant and analysis of data by August 12, 1970 extended to June 14, 1971. | A preliminary engineering report on joint treatment with the industries has been provided. A letter dated March 8, 1971 from the Northwest Paper Company indicates that their engineers have been authorized to proceed with preparation of plans for joint treatment with Conwed and Cloquet. |
| Preparation of final basis of design and estimates of costs for treatment facilities by October 12, 1970 extended to June 14, 1971. | |
| Negotiations for final contract for joint treatment facilities by December 12, 1970, extended to June 14, 1971. | |
| Preparation of plans and specifications for treatment facilities by November 12, 1971. | |
| Submittal of plans and specifications to appropriate authorities for approval | |
| Advertisement for bids, bid analysis, and awarding of contract, subject to approval of agency granting construction funds, by January 12, 1972 | |
| Agency approval for granting construction funds | |
| Construction of treatment facilities by November 12, 1973 | |
| Continental Oil Company,<br>Wrenshall Refinery, Wrenshall | |
| Make a decision on diversion to Carlton or independent waste treatment facilities, and submit contract for municipal treatment of plant wastes, if chosen, by July 1, 1971 | Revised engineering report has been received on expansion of existing wastewater treatment facilities or treatment by Carlton. |
| If independent waste treatment is chosen, submit final plans by December 1, 1971. | |
| Take bids and award contract for works by April 1, 1972 | |
| Complete construction and place facilities in operation by May 26, 1973. | |

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(1) Includes only those schedules which are incorporated in an order or stipulation

| Source and Remaining Control Tasks | Status |
|---|---|
| **Conwed Corporation, Cloquet** | |
| Operation of pilot plant and analysis of data by August 12, 1970, extended to June 14, 1971 | The company has submitted a preliminary report on studies leading to complete elimination of wastes by process changes and in-plant controls. A letter dated March 8, 1971, from the Northwest Paper Company indicates that their engineers have been advised to proceed with the preparation of plans for joint treatment with Conwed and Cloquet. |
| Preparation of final basis of design and estimate of costs for treatment facilities by October 12, 1970, extended to June 14, 1971 | |
| Negotiations for final contract for joint treatment facilities by December 12, 1970, extended to June 14, 1971 | |
| Preparation of plans and specifications for treatment facilities by November 12, 1971 | |
| Submittal of plans and specifications to appropriate authorities for approval | |
| Advertisement for bids, bid analysis, and awarding of contract, subject to approval of agency granting construction funds by January 12, 1972 | |
| Agency approval for granting construction funds | |
| Construction of treatment facilities by November 12, 1973 | |
| **Duluth** | |
| Receive final design data from Superwood by January 15, 1971, extended to June 15, 1971 | Revised engineering report on secondary and tertiary treatment facilities has been received. An extension of the interim dates for an agreement with Superwood for construction of interceptor sewer and future sewer service was granted on April 19, 1971, based on some additional time needed to prove out a pilot plant scale flow reduction and waste recovery system at Superwood |
| Furnish to Agency for approval an executed commitment or agreement with Superwood for construction of interceptor sewer and future sewer service, and submit preliminary engineering report on Superwood interceptor by February 15, 1971, extended to July 15, 1971 | |
| Authorize consulting engineers to prepare final construction plans and specifications for secondary treatment works, including phosphorus reduction, by June 14, 1971 | |
| Submit final plans for Superwood interceptor by June 15, 1971, extended to August 15, 1971 | |
| Solicit bids and award contract for Superwood interceptor by August 15, 1971, extended to November 15, 1971 | |
| Submit final plans and specifications for secondary treatment works, including phosphorus reduction, by November 15, 1971 | |

| Source and Remaining Control Tasks | Status |
|---|---|
| Solicit bids and award contract for secondary treatment works, including phosphorus reduction, by January 15, 1972 | |
| Complete construction of Superwood interceptor by November 26, 1973 | |
| Require Superwood to commence discharging its wastes into the interceptor if so requested by the Agency by May 15, 1973 | |
| Complete construction and place in operation secondary treatment works, including phosphorus reduction, by November 26, 1973 | |
| Fitger Brewing Company, Duluth | |
| Construction of necessary in-plant changes and diversion of process wastes into the sanitary sewer system by December 31, 1970, extended to June 30, 1971 | Some pipe location work has been done but connection delayed by uncertainty as to site of new freeway interchange. |
| Grand Marais | |
| Construction plans for secondary and tertiary treatment facilities by December 30, 1970. | Engineering report has been received. Further field work needed to evaluate sewer infiltration has delayed submission of plans. The report on the latter studies is due by June 1, 1971 |
| Contract awarded for secondary and tertiary treatment facilities by March 30, 1971 | |
| Secondary and tertiary treatment facilities to be completed by September 30, 1972 | |
| Minnesota Power and Light Company, Hibbard Plant, Duluth | |
| Final plans to be submitted by January 1, 1972 | Engineering report on improvement of sewage and ash disposal systems has been submitted. |
| Construction to be completed and facilities to be placed in operation by July 7, 1972 | |
| Minnesota Power and Light Company, Hoyt Lakes Plant, Hoyt Lakes | |
| Complete construction and place in operation necessary sanitary and process wastes disposal systems by July 1, 1971 so that all waste effluents are in compliance with applicable water quality standards | The company has submitted a report on proposed revisions to the existing system. Plans were recently approved for enlargement of the ash disposal basin |
| The Northwest Paper Company, Cloquet | |
| Operation of pilot plant and analysis of data by August 12, 1970, extended to June 14, 1971 | Pilot plant studies have had to be more prolonged than anticipated. A letter from the company dated March 8, 1971 indicates that they have authorized their |

| Source and Remaining Control Tasks | Status |
|---|---|
| Preparation of final basis of design and estimate of costs for treatment facilities by October 12, 1970, extended to June 14, 1971 | engineers to proceed with the preparation of final plans for joint treatment with Cloquet and Conwed. |
| Negotiations for final contract for joint treatment facilities by December 12, 1970, extended to June 14, 1971 | |
| Preparation of plans and specifications to appropriate authorities for approval | |
| Submittal of plans and specifications for appropriate authorities for approval | |
| Advertisements for bids, bid analysis, and awarding of contract, subject to approval of agency granting construction funds by January 12, 1972 | |
| Agency approval for granting construction funds | |
| Construction of treatment facilities completed by November 12, 1973 | |
| **Scanlon** | |
| If Agency disapproves of the decision of the village to improve its treatment works, village must contract to divert wastes to multi-municipal facility by June 14, 1971 | The Agency has not commented on the village's decision because of the proposal for the creation of the western Lake Superior Sanitary District |
| If Agency approves continuing independent treatment village must submit final plans for secondary and tertiary treatment works by June 15, 1971. | |
| Take bids and award contract for independent works by July 15, 1971 | |
| Complete construction and place facilities in operation by September 1, 1973. | |
| **Silver Bay** | |
| Final plans on expansion of secondary treatment facilities and phosphorus reduction and measures to eliminate sources of infiltration and/or storm water influx by February 28, 1971 | Engineering report has been received, but preparation of plans has not yet been authorized. |
| Bids and awards by May 30, 1971 | |
| Construction to be completed by November 30, 1972 | |

| Source and Remaining Control Tasks | Status |
|---|---|
| Superwood Corporation, Duluth | |
| Complete necessary construction on company property prior to November 26, 1972 to connect to public interceptor, and divert sewage and industrial wastes to city sanitary sewer system by May 15, 1973 | Consultant is working on in-plant improvements concurrently with studies for diversion to the city system. |
| Two Harbors | |
| Final plans on sewer improvements by September 1, 1970 | Engineering report on secondary and tertiary treatment facilities and on sanitary sewer infiltration and storm water influx problems has been received, but some additional studies needed |
| Bids and awards on sewer works by November 1, 1970 | |
| Amended preliminary report and revised federal grant application by October 31, 1971 | |
| Final plans on treatment works by December 30, 1971, extended to March 30, 1972 | |
| Bids and awards on plant by April 30, 1972, extended to May 31, 1972 | |
| Plant construction to be completed by May 26, 1973 | |
| Sewer separation to be completed by November, 1979 | |

Attachment C

MINNESOTA POLLUTION CONTROL AGENCY
Division of Water Quality

Remaining Non-Conforming Sources of Sewage and Industrial Wastes Discharged in the Lake Superior Basin for Which Additional Treatment or Control may be Necessary for Complaince with Recommendations of Enforcement Conference.

April 12, 1971

| Name and Location | Treatment and/or Control Need | Remarks |
|---|---|---|
| Abex Corporation, Two Harbors | Improve treatment works | Company has submitted engineering study of wastes and is considering a stipulation. |
| Aurora | Phosphorus reduction | A consulting engineer has been retained. |
| Babbitt | Phosphorus reduction | Village has studies underway and has requested a variance. |
| Biwabik | Phosphorus reduction | Progress has not been reported. |
| Buhl | Phosphorus reduction | Progress has not been reported. |
| Carlton | Secondary treatment and phosphorus reduction, sewer system improvements. | An engineering report has been received. |
| Chisholm | Phosphorus reduction | A consulting engineer has been retained. |
| Cloquet | Sewer system improvements | An engineering report has been received. |
| Diamond Tool and Horseshoe Co., Duluth | Treatment works or divert to city sanitary system | Company is negotiating with city on possible diversion. |
| Duluth | Sewer system improvements | It is understood that the city has made some improvements, however, a report on a comprehensive sewer study has not yet been submitted. |
| Eveleth | Phosphorus reduction | Progress has not been reported. |
| Floodwood | Phosphorus reduction | Progress has not been reported. |
| Fraser | Phosphorus reduction | Progress has not been reported. |
| Gilbert | Phosphorus reduction | A consulting engineer has been retained. |
| Grand Marais | Sewer system improvements | An engineer has been employed and studies are underway. |

| | | |
|---|---|---|
| Hibbing | Phosphorus reduction | A consulting engineer has been retained. |
| Hibbing Power Plant | Treatment works | City has agreed to proceed with necessary plant changes to reduce phosphorus concentration. |
| Hoyt Lakes | Phosphorus reduction | A consulting engineer has been retained. |
| Iron Junction | Phosphorus reduction | Progress has not been reported. |
| Kinney | Phosphorus reduction | An engineering report has been received. |
| Leonidas | Phosphorus reduction | Progress has not been reported. |
| McKinley | Phosphorus reduction | A consulting engineer has been retained. |
| Meadowlands | Phosphorus reduction | A consulting engineer has been retained. |
| Minnesota Department of Natural Resources, Jay Cooke State Park, Carlton County | Expand treatment including phosphorus reduction | Department has agreed to improve facilities. Engineering studies underway. |
| Mountain Iron | Phosphorus reduction | Progress has not been reported. |
| Nichols Township, St. Louis County | Phosphorus reduction | A consulting engineer has been retained. |
| Reserve Mining Company, E. W. Davis Works and Power Plant, Silver Bay | Treatment works | Company has retained engineers and is preparing specific proposal. |
| Scanlon | Sewer system improvements | Progress has not been reported. |
| Stuntz Township,<br>Kelly Lake Community,<br>St. Louis County | Phosphorus reduction | Progress has not been reported. |
| Thompson Township<br>Esko Community<br>Carlton County | Phosphorus reduction | Progress has not been reported. |
| Two Harbors Power Plant | Treatment works | Progress has not been reported. Commission is considering a stipulation. |
| Union Carbide Co., Duluth | Treatment works | Progress has not been reported. |

| | | |
|---|---|---|
| U.S. Steel Corporation, Duluth Works, Duluth | Expand treatment works<br>Phosphorus reduction | The company has agreed in principle to upgrade facilities to comply with standards requirements, and has studies underway. |
| U.S. Steel Corp., MinnTac Plant sewage works, Mountain Iron | Phosphorus reduction | Progress has not been reported. |
| Virginia | Phosphorus reduction | A consulting engineer has been retained. |
| Virginia Power Plant | Treatment works | The city has agreed to make further diversion of wastes to the city sanitary sewer system, submit plans and apply for operation permit. |
| U.S. Air Force, Department of Defense, Duluth Air Force Missle Site, Duluth | Phosphorus reduction | Executive order 11507 of the EPA require that adequate treatment facilities be in operation or under construction by December 31, 1972. |
| Finland Air Force Station, Finland | Phosphorus reduction | Executive order 11507 of the EPA require that adequate treatment facilities be in operation or under construction by December 31, 1972. |
| U.S. Coast Guard, Duluth Light Station, Duluth | Secondary treatment<br>Phosphorus reduction | Executive order 11507 of the EPA require that adequate treatment facilities be in operation or under construction by December 31, 1972. |
| U.S. Immigration and Naturalization Service, Department of Justice, Border Patrol Station, Grand Marais | Phosphorus reduction | Executive order 11507 of the EPA require that adequate treatment facilities be in operation or under construction by December 31, 1972. |

MR. MERRITT: I might just add, if I may, that we have met with the Superwood Company and with the city of Duluth, and we are satisfied that this will be a reasonable resolution.

MR. DOMINICK: Very well. Thank you.

Any further questions or comments?

MR. McDONALD: Yes, I have a question, Mr. Chairman. Mayor Boo indicated that legislation seemed to be moving forward on the regional level of Duluth-Superior. Mr. Frangos, can you tell us what the status of any needed legislation is for Superior joining the region?

MR. FRANGOS: Yes. We don't see any problem with bringing in Superior on a contract basis. There is clearly legal authority for a Wisconsin community to join with a foreign community in this kind of a venture. But we do have some legal questions that have been raised by the Attorney General and as the Mayor indicated, we are discussing these right now to see if we do need additional legislation. But that goes to whether a municipality can participate in a bistate agency as a member. So it is a technical question. But I think if there is a need then we will be asking for additional information. Because we obviously would like to have as many alternatives available to our communities as possible if this thing indeed goes.

MR. DOMINICK: Further comments or questions?

Thank you very much.

MR. MERRITT: Thank you, city of Duluth.

We now have a statement, Mr. Chairman, that I would like to read at this time, which covers the rest of the report from the agency, and then I have some mayors and others that I will call on thereafter.

MR. DOMINICK: You have other additional citizens to call on?

MR. MERRITT: Yes, I do. Mayor Scheuring of Silver Bay who will report on the waste treatment facilities has requested the opportunity to be heard. Mayor Thompson of Grand Marais or another representative of the city of Grand Marais, and then I have a statement from the United States Steel Corporation, from Mr. Dunsmore, which I suppose I should read. They are not here today, but I suppose I should read that into the record. I do have copies that could just be entered into the record. Then we will have a request for other municipalities who are under abatement schedules, and I believe that one representative, a consulting engineer, would like to make a statement on behalf of a number of communities on the range.

(The above-mentioned letter from U.S. Steel follows.)

United States Steel Corporation
525 William Penn Place
Pittsburgh, Pa. 15230

USS

R. J. DUNSMORE
DIRECTOR-ENVIRONMENTAL CONTROL

April 21, 1971

Mr. Grant J. Merritt
Executive Director
State of Minnesota
Pollution Control Agency
717 Delaware Street S.E.
Minneapolis, Minnesota 55440

Dear Mr. Merritt:

This is in reference to your letter of April 16 inviting USSC participation in the Federal-State Conference on Lake Superior and its tributary basin on April 23, 1971.

At preceding sessions of this conference, held in August 1970 and January 1971, USSC submitted statements that were filed with the records of the conference. These statements reviewed USSC's pollution abatement program as accepted by the Minnesota Pollution Control Agency on June 19, 1970 and provided progress reports on achievements under the program.

USSC has proceeded with construction, installation and other work of the program, and I am pleased to report that we are presently "on schedule" with all program obligations.

I appreciate your consideration for providing USSC the opportunity to report to the April 23, 1971 Conference. Twelve extra copies of this letter are enclosed for filing as a progress report with the conference, if you so desire.

Very truly yours,

MR. DOMINICK: Very well. Let's proceed as rapidly as possible.

MR. MERRITT: Mr. Chairman and conferees, I'll have copies of these recommendations available. They are being run off now and will be distributed very shortly.

This is a Recommendation, No. 4, and continues the statement which I gave yesterday morning. As noted in January, a Federal grant application has been prepared to expand our current contract study on the prevalence of pesticide residues in the waters of the basin of Lake Superior to include mercury, lead and some other metals, and polchlorinated biphenyls. The application has not been submitted to the Federal Water Quality Office for consideration because funding for the matching State portion is not available. To our knowledge, there is yet no data available from the contract study of pesticide residues which was approved by the Federal Water Quality Office in October 1969.

Recommendation No. 5, except for the Village of Carleton, stipulations for completion of secondary treatment works on or before January 1974, have been entered into with the agency by all of the municipalities which do not already have secondary treatment and which discharge to or affect interstate waters in the Lake Superior Basin. Some of these municipalities are beginning to lag -- and I'll explain that; there is a reason for that -- lag behind the current requirements of the Action Plan as set forth in our Attachment A, which I won't read now but will be attached to the report -- which plan includes submission of a preliminary engineering report by March 1, 1971, and authorization by April 1, 1971, for preparation of final plans and a summary will be attached.

This lag that I referred to of a number of the municipalities, in many cases relates to the proposal by the Northeastern Minnesota Development Association for a regional approach to sewage disposal in the Duluth-Superior-Cloquet area, which was presented to the conferees in January and which Mr. Stein referred to earlier. I will not repeat the details of this proposal, but it should be noted that compliance with agency-approved interim schedules was deferred until mid-June, to give the proponents time to obtain from 1971 Legislature the necessary enabling statutes for formation of the District. In the interim, the dates for completion of construction remained in effect.

The proposal has been incorporated in a bill for creation of the Western Lake Superior Sanitary District. And as Mayor Boo has stated, this bill is making good progress. And I was pleased to hear from the Mayor that it may pass this week. We have had meetings, a number of meetings, and one important one where everybody agrees now, including environmentalists in all of the parties, on the District proposal. And I can confidently predict it will pass the legislature with that kind of agreement.

It is as yet too early to tell how much time will be needed to organize the District and construct the proposed new collection and treatment works.

Recommendation No. 8, the agency on April 19 considered the issuance of orders to the municipalities and industries listed in the Attachment C, to require the reduction of phosphorus in their effluents to the level of 1mg/1. The classification in effluent standards (Regulations WPC 25 through 28) on which these orders will be based are being appealed by Reserve Mining Company.

Recommendation No. 9, the general comments made previously in regard to municipalities under the earlier Recommendations I read apply also to the industries involved with this Recommendation for equivalent treatment. The stipulation is being prepared to encompass the agreement reached by the agency on June 19, 1970, with the United States Steel Corporation concerning the Duluth steel work at Morgan Park. You will recall this agreement was presented to the conferees and accepted at the August 1970 session. And I might, at this time, Mr. Chairman, pass out for the conferees a copy of the letter which I received from Mr. Dunsmore. And If you like I could read that into the record. (See earlier letter.)

All right.

I might add the industries which have already stipulated are listed in Attachment B; so we do have that as an attachment to the written report. I won't read that in.

Recommendation No. 16, a bill has been introduced in the 1971 Legislature which would modify our existing statutes relating to marine toilets. Senate File 694 would repeal Section 361.29 and limit the use of marine toilets to those connected to complete retention units for all watercraft operating on Minnesota water.

I might say this is quite important to us in Minnesota. At the present time the State of Wisconsin does require holding tanks, and we have the situation, for example, on the St. Croix River where it is all right on our side of the river to use a macerator-chlorinator in your boats. But if you cross over the line into Wisconsin, you better be careful.

I understand from discussion I have had with some of the top people in Washington from the Environmental Protection Agency, the EPA is going to move on this, and there may be Federal preemption. But at this point, I think that the legislators in Minnesota plan to pursue this legislation I referred to, and I don't know whether you have any comment on that, Mr. Chairman, or any of the other conferees. We do have a problem here and I am hoping we can resolve that one way or the other.

If not I'll go ahead.

MR. DOMINICK: You may expect some announcement from the Environmental Protection Agency on vessel regulations within the next several weeks.

MR. MERRITT: Very good. Pleased to hear that.

The bill would require -- this bill that is in our legislature -- would require compliance by April 1, 1974, and would also empower the agency at its discretion to require a marina to provide dockside tanks and facilities for discharge and disposal of the contents of such storage units. I think this is very important, unless we have some regulation on holding tanks of that nature.

I don't know what the State of Wisconsin does. I would be interested later on to find that out. But I think that some regulation of these holding tanks is necessary.

Some of the more noteworthy developments since January include the report of the Taconite Tailings Technical Committee in related actions, the public hearing on Open Water Standards for Lake Superior -- that's the WPC 33 I referred to earlier, which now is completed and the hearing has been closed; and the bills pending to create the Western Lake

Superior Sanitary District, modify present marine toilet statutes and provide for a State program of grants for construction of municipal sewage treatment works.

I might say that we are working hard on a bonding program for a State grant-in-aid program in the State of Minnesota. We do not have, as Mr. McDonald and the rest of you gentlemen know, a program of State grant-in-aid for municipal sewage treatment works in Minnesota at the present time. We are the only State in the 5-State region that does not have some type of State grant-in-aid program for interceptor sewers and municipal treatment facilities. We are working very hard on that. It is a top priority here in Minnesota. And I think with the help -- the splendid help we have already had from Mr. McDonald; he was in charge of the construction grant out of the EPA Chicago office -- that we will have a program before the end of this session. And I certainly would make that prediction. We hope it will be a commitment to $185 million bonding program so we will move ahead with a strong commitment by the State for the next 20 years.

MR. DOMINICK: We would certainly hope that you do get a program through the legislature, Mr. Merritt. I was down in Mississippi the other day, and we have convinced the Mississippi Legislature that they sould have a matching grant program. I am sure that Minnesota would not want to be far behind.

MR. MERRITT: Well, you know, just along that line, Mr. Chairman, I made a speech the other day where I said, "You know, we are behind. We have no program. Even Iowa is ahead of us." And I found out later there were some Iowans in the audience. But that is true -- we have lagged behind. I think that we will solve that problem.

I have just a very brief additional comment.

MR. McDONALD: Mr. Merritt.

MR. MERRITT: Yes.

MR. McDONALD: I might add that when I testified before the legislative group -- this was the second year that I testified, and each year the legislative group was real surprised that they did not have a matching program and all the surrounding States did. But this year I sensed that they were much more anxious to go forward.

MR. MERRITT: Very good. Again, thank you, Mr. McDonald and the other representatives that have helped us on this from EPA.

Just another few comments here and I'll have completed my report.

Other items of progress include substantial indications by Conwed and Superwood that major reductions in the flow and pollutional content of their waste can be made by further closing of their process systems; by the stipulation of Hoyt Lakes to reduce the phosphorus in its effluent; by approval of plans for a larger ash disposal basin at the Aurora Steam Electric Station of the Minnesota Power and Light Company; by the retaining of consulting engineers by Aurora, Chisholm, and Nichols Township of St. Louis County; by the receipt of preliminary engineering reports from the Abex Corporation of Two Harbors and from Kinney; and by completion of the improvements by R. J. Reynolds Foods Company of Duluth sufficient to comply with all current requirements. Those responsible for waste discharge into the Lake Superior Basin have been requested to be present in order to furnish detailed information on their situation. And I should be glad to call upon them or provide whatever additional information may be desired by the conferees for their deliberations in this matter. Thank you, and that completes the written report, which we will distribute, Mr. Chairman.

I do now have, unless there are some comments on these statements, these mayors that I mentioned earlier, and I think I should go ahead with those, unless there are some comments.

MR. DOMINICK: Mr. Merritt, I would call your attention to the letter that you received from the United States Steel Corporation of April 21, 1971, Mr. H. J. Dunsmore, the Director of Environmental Control. He says, "U. S. Steel Corporation has proceeded with construction, installation and other work of the program, and I am pleased to report that we are presently 'on schedule' with all program obligations." I would urge the State of Minnesota to communicate further with the United States Steel Corporation and receive much more specific information with respect to the program obligations that the corporation claims it is meeting, and to assure yourselves, and to submit such information to this conference that all necessary works are indeed being constructed on the schedule that has been stipulated.

MR. MERRITT: Very good, Mr. Chairman. I will be pleased to follow up on that.

I have held a meeting with Mr. Dunsmore's Assistant, Mr. Walter Jackson, and others from Pittsburgh. And I have requested the corporation to supply the State of Minnesota with an answer to the question of whether the company feels a special obligation because of its mining over the past 75 years in Minnesota, to the State of Minnesota. We are in direct communication, and I will be glad to convey that request back to the corporation and furnish you with copies of all of the information

MR. DOMINICK: Thank you.

I think, Mr. Merritt, it might be well to take a 15-minute break at this time for the sake of our court reporter and everybody who has been so patient in the audience. Then we will hear from your other witnesses.

MR. MERRITT: Very good. Thank you, Mr. Chairman.

(Whereupon a short recess was taken.)

MR. DOMINICK: Mr. Merritt, conferees from the State of Minnesota.

Please proceed, Mr. Merritt, with your witnesses.

MR. MERRITT: Thank you, Mr. Chairman.

I'll call on Mayor Scheuring of Silver Bay to present the report on the waste treatment program facilities there. Mayor Scheuring.

I guess he isn't here right now.

Is Mayor Thompson here from Grand Marais, or we have a substitute. Is this Mr. -- Mr. Jack Sarchet from Grand Marais.

MR. JACK SARCHET

PROJECT COORDINATOR

VILLAGE OF GRAND MARAIS, MINNESOTA

MR. SARCHET: The Mayor is here now but he just arrived and he asked that I present the statement.

This is a very laconic --

VOICE: Can't hear you.

MR. SARCHET: -- very laconic timetable of what Grand Marais has done toward revamping their sewage facilities to meet PCA and EPA standards. I have 12 copies of this statement here signed by the Mayor, Mr. Merritt.

MR. MERRITT: Thank you, sir.

MR. SARCHET: Really, this is a very laconic timetable, sort of patting Grand Marais on the back. We don't really know why we were summoned to the meeting.

The first step was preliminary engineering plans, even before we signed this stipulation with PCA on February 12, 1970. We signed the stipulation to comply March 31, 1970. We applied for a grant via Minnesota PCA, FWPCA on May 15. The grant was denied because of lack of funds on July 1, 1970. Final plans -- preliminary plans having agreed been to -- were submitted on January 7, 1971.

It is only in the past month that we found out that the final plans haven't been worked on by the PCA because they don't work on plans unless there is a current grant request. Therefore, we are now preparing another grant to the Minnesota PCA. The due date for that is May 17, 1971.

In the interim, still looking for funds, we applied to the Farmers Home Administration on February 4. On March 8, we received a letter from FHA that our grant was being considered with priority, and we are having a meeting with them on April 27, 1971 -- next Tuesday.

And in conclusion, we say fruition of these efforts are dependent upon favorable consideration of a grant application and final approval of engineering plans by the Minnesota PCA.

(The above-mentioned statement follows.)

# RESUME OF ACTIONS TAKEN BY VILLAGE OF GRAND MARAIS, MINNESOTA TO COMPLY WITH STIPULATION EXECUTED MARCH 31, 1970 WITH THE MINNESOTA POLLUTION CONTROL AGENCY

## GENERAL

A review of the chronological steps taken thus far to rebuild this village's sewage disposal plant into a facility producing effluent that will meet Minnesota PCA and Environmental Protection Agency standards will indicate that the village has not been dilatory in any respect toward pursuing the target dates as outlined in the stipulation of March 31, 1970.

## CHRONOLOGY OF EVENTS

### 1970

| Date | |
|---|---|
| 2-12-70 | Preliminary engineering plans submitted to PCA (engineering costs paid by village). |
| 3-18-70 | First meeting with Minnesota PCA. |
| 3-31-70 | Stipulation executed with PCA. |
| 5-15-70 | Application for FWPCA grant submitted to Minnesota PCA. |
| 7-1-70 | FWPCA grant denied by State Planning Commission. |

### 1971

| | |
|---|---|
| 1-7-71 | Final plans submitted to PCA for approval.<br>NOTE: It was only in the past month that we have been informed via our engineering consultant that the Minnesota PCA cannot finalize plans unless there is an active application for a FWPCA grant on file with them. |
| 2-4-71 | Application for grant submitted to Farmers Home Administration |
| 3-8-71 | Letter received from Farmers Home Administration that our grant was being considered with priority and setting up meeting for late April. |
| 4-7-71 | Village Council authorized Mayor to proceed with new FWPCA grant application and commissioned Earl Ruble and Associates to assist in preparation for submission by May 17, 1971. |
| 4-27-71 | Meeting scheduled with Farmers Home Administration, Village Council, Public Utilities Commission and other interested parties to further consider grant. |
| 5-17-71 | Deadline for submission of FWPCA grant application. |

## CONCLUSION

Fruition of these efforts are dependent upon favorable consideration of grant applications and final approval of engineering plans by Minnesota PCA.

/s/ Joe Thomsen
Joe Thomsen, Mayor

MR. MERRITT: Very pleased to hear that, Mr. Sarchet, and thank you. I hope that you will give us some support on our statewide bonding program to get some more money for you, so there will be some State contribution to your plant up there at Grand Marais.

MR. SARCHET: Thank you.

MR. DOMINICK: Mr. Merritt, I might interject at this point, I think by virtue of the fact you are having a number of communities come in and testify to what their current plans are and the status of both their planning and construction activities, it would be very helpful if you would summarize the status of all of the dischargers in the State of Minnesota discharging into Lake Superior and submit that summary to the conferees by mail. We will keep the record open long enough to receive your report. It is very difficult for us to review each one of these on a case-by-case basis unless you have additional data here to present.

MR. MERRITT: Yes, Mr. Chairman, we will be pleased to do that. In fact, that is in our report which will be entered in the record today.

I have had, however, special requests. That is the reason I'm calling on these mayors. I have one more Mayor. Mayor Scheuring of Silver Bay, if he is up here yet.

MR. DOMINICK: Is there any comment before --

MR. MERRITT: That does complete the requests. I think the additional requests by the consultants for the number of communities on the range could just be entered in the record, if I could be furnished with additional copies, and that would complete then the Minnesota presentation.

MR. DOMINICK: Fine, Mr. Merritt.

Is there any comment on the Grand Marais plan before we go to Silver Bay?

MR. STEIN: Do you know what kind of treatment is being provided?

MR. MERRITT: I will refer to Mr. Sarchet. He wants to know the treatment that is now being provided --

MR. STEIN: No, that will be provided when you are finished.

MR. MERRITT: Well, there will be secondary treatment.

MR. STEIN: What kind of secondary treatment? What device are you using?

MR. MERRITT: Maybe Mr. Sarchet better --

MR. SARCHET: Maybe I could defer to our consultant.

MR. STEIN: Yes. Well, I just have two fast questions: 1) whether it is trickling filter or activated sludge, and 2) the kind of BOD reduction you expect and whether you are going to have year-round chlorination or disinfection?

MR. SARCHET: Let me find the consultant. He is in the hall.

MR. DOMINICK: Very well. We have those questions before us. Let's proceed with Silver Bay.

MR. MERRITT: Yes. We have, Mr. Chairman, the Attorney for Silver Bay, and I understand that he and another man, Mr. Jensen, will give very short reports and we will not need a report from the Mayor then.

## MR. WAYNE JOHNSON
ATTORNEY AT LAW
SILVER BAY, MINNESOTA

MR. JOHNSON: I am Wayne Johnson. I am the Attorney for Silver Bay and for Beaver Bay. In the absence of Mr. Scheuring, I will take my report out of order.

I do speak jointly for both of the communities of Silver Bay and Beaver Bay.

Beaver Bay has no sewage treatment works. We did eliminate that old familiar landmark with seat and two holes some years ago, but we still have septic tanks. Since the village is built on ledge rock hillside which is not conducive to seepage systems, raw sewage finds its way directly into Lake Superior. This real pollution is buried in the emotionalism attendant to the alleged pollution of the deposit of ground-up rock in the lake by our neighboring industry.

Beaver Bay became concerned about sewage pollution long before the ecology became more sacrosanct than motherhood. The problem was considered and studied as early as 1953 when the Village was first organized.

In 1962 application was made to the Minnesota Pollution Control Agency for State and Federal assistance. It has resubmitted numerous applications since. It attempted to secure Federal funding from the Federal Housing and Home Finance Agency as early as 1963, and made applications to EDA, Farmers Home Administration, Upper Great Lakes Agency, and the entire array of alphabetical soup agencies until it exhausted every possible Federal avenue of Federal assistance.

Despite its frustrations, it did not cease in its effort. For the size of the community, Beaver Bay has expended funds beyond its means in engineering and planning studies. It has submitted preliminary planning studies to the PCA.

Financially, it has no bonding capacity and must depend exclusively on grants or loans to effectuate the project. Preliminary estimates of the project cost exceed $500,000. Operating costs for the required secondary and tertiary treatment appear to be prohibitive. The population of this community of 287 people could not support that type of treatment plant.

Silver Bay constructed a modern sewage disposal facility about 18 years ago. It incorporated all the latest techniques in proper sewage disposal and was approved by appropriate State and Federal agencies.

Silver Bay is not confronted with a problem of major modifications. Estimated costs are approximately $400,000, not including substantial corrections in its collection system.

Silver Bay too is faced with a financial dilemma. Knowledgeable bonding authorities question the marketability of additional bond issues. Its bonded indebtedness now exceeds $1¼ million.

Unless the legislature passes Senate File 1018, the proposed bill authorizing expanded grants for facilities of this type, or similar legislation on both a State and Federal level, I see no possibility that either Village can comply with PCA and Federal directives.

The delays and proceeding with the project have not been occasioned by the Villages. Planning studies, a prerequisite to Federal and State grants promised more than a year ago by other governmental agencies, have not been realized or commenced.

The Villages have fully cooperated with State and Federal officials. They should not be held responsible for conditions beyond their control.

We have considered the feasibility of a joint project, i.e., a joint project with Silver Bay and Beaver Bay. This decision must, however, await results from the Arrowhead Regional Development Commission planning study.

The Villages are concerned about pollution -- real, established, proven pollution. They will be happy to comply with Federal and State standards. They are willing to proceed as soon as other governmental agencies meet their responsibilities, carry out the preliminary planning studies and provide for reasonable funding.

Until that happens, we will continue to tolerate the sweet smell of effluents bubbling into our crystal clear lake.

Yours, gentlemen, is the challenge to find the practical solution.

Thank you.

MR. MERRITT: We have Mayor Scheuring who would like to give a short --

MR. McDONALD: Mr. Merritt, could we have Mayor Johnson come back?

MR. MERRITT: He is the Attorney Johnson.

All right. Mr. Johnson, would you come back, please. There is a question from Mr. McDonald.

We do have Mayor Scheuring here and Mr. Jensen. They both want to give statements. I would like to hurry this up, and Mayor Scheuring tells me it will just be a minute. Maybe they could answer your questions, Mr. McDonald.

MR. McDONALD: Well, maybe they can, but I would like to talk to the Village attorney.

MR. MERRITT: Yes. Here he is now. Fine.

MR. JOHNSON: Yes, sir.

MR. McDONALD: Mr. Johnson, in your statement you made it very clear that there is no intention of either of these communities going forward until they get Federal and State funds. The thing I would like to make clear to you is that there is no condition as far as the Federal

Government is concerned that funds are going to be provided to either of these communities. You have an obligation to go forward with your abatement program apart from any funds. No promise of Federal or State funds was ever made contingent upon you going -- waiting until such time as you got those funds.

MR. JOHNSON: I think the point is, however, sir, that we have proceeded as far as practical. We have expended all the funds that we have available in preliminary planning studies. Both Villages have submitted applications, both Villages have submitted preliminary plans, and we have been asked by the Arrowhead Regional Commission to not move forward until they have completed their planning study to determine particularly the feasibility of a joint plant between the two communities, so we are in a dilemma. We don't really know what to do. We have done everything we can to comply, but at the present time we can't move forward unless we get --

MR. McDONALD: I would like to make it very clear for the record that there is no endorsement by the Federal Government. I am sure that Mr. Merritt may have some comment on the State's position that there would be any possibility of delay as far as we're concerned because you are not going to receive Federal funds. You have the obligation to move forward -- this has been spelled out -- with or without Federal funds.

MR. JOHNSON: But how does the Village do it very practically without money?

MR. McDONALD: The idea is that Federal funds are not a condition precedent to your going forward.

MR. DOMINICK: Mr. Merritt, I think that this will reauire a very strong and vigorous stand on the part of the Minnesota Pollution Control Agency. I would hope that you could report back to this conference at an early date on the finalization of plans and the beginning of construction at these communities.

MR. MERRITT: Mr. Chairman, I will be very pleased to do that, and I would subscribe in full to the statements made by Mr. McDonald, and there certainly is no condition precedent imposed by the Minnesota Pollution Control Agency. And I would just like to add, however, that some of the small communities in this State are suffering because we do not have a State grant-in-aid program. And I say that not in any change of policy or any excuse but merely to point out that I hope that these communities that are suffering will work hard to pass that grant in aid program. But you may be assured that we are going to enforce our regulations irrespective of any such bill that may or may not be passed. But I think it will be.

MR. FRANGOS: I have a question, please. What is the population of Beaver Bay?

MR. JOHNSON: Beaver Bay has a population of 287, and I believe the present population of Silver Bay is about 3,200.

MR. FRANGOS: Beaver Bay, 287. Thank you.

MR. MERRITT: Mr. Chairman, we now have Mayor Scheuring and Mr. Jensen. I believe Mayor Scheuring is next. He has assured me he will take just a minute.

## THE HONORABLE FRANK H. SCHEURING
## MAYOR, SILVER BAY
## SILVER BAY, MINNESOTA

MAYOR SCHEURING: First off, I must apologize to the conferees and to the audience for being somewhat tardy, and the second statement I have to make is simply this -- that the statement being presented by

Mr. Johnson and by Mr. Jensen will be the official statement of the Village of Silver Bay, to clarify any confusion that might arise further. They will be speaking in behalf of the Village. Thank you.

MR. DOMINICK: Thank you, Mayor.

MR. MERRITT: Now, Mr. Jensen.

### MR. AXEL A. JENSEN, SUPERINTENDENT
### WATER AND SEWER DEPARTMENT
### SILVER BAY, MINNESOTA

MR. JENSEN: Mr. Chairman, conferees, ladies and gentlemen, my name is Axel A. Jensen. I am the Superintendent of the Water and Sewer Department for the Village of Silver Bay.

The Minnesota Pollution Control Agency and the Village of Silver Bay signed a stipulation agreement dated May 14, 1970. The time schedule established called for the preliminary engineering report to be completed and sent to the agency by July 1, 1970.

The Village of Silver Bay does not own the wastewater treatment plant facilities, and in preparing the grant application for the Federal Water Pollution Control Agency funds, the question as to the legal authority of the Village was raised. An opinion was made by the Village attorney that stated the sale or issuance of bonds by the Village for improvements or expansion of facilities it does not own would be in violation of State statutes.

We presented this problem to the owners, at which time they stated that they would investigate the possibilities of sale or transfer of this property to the Village, although there would be some problems that would have to be resolved.

When we received a verbal commitment that we could most likely acquire title to this property, we submitted a preliminary report to the Minnesota Pollution Control Agency on August 5, 1970.

The Minnesota Pollution Control Agency, by their stipulation agreement with the Village, had 60 days in which to review and comment on the preliminary report. We did not receive comment from the agency until December 28, 1970, for a delay on their part of 80 days.

In 1969 the State Legislature enacted what is known as the Regional Development Act. Eleven regions were established with Region 3 comprised of six counties including Lake County. These Regional Commissions were given responsibility and authority, among them was, to create a comprehensive regional development plan for land use, health care, pollution control, water and sewer facilities and the review and comment of all local applications for State and Federal loans and grants.

The Villages of Silver Bay and Beaver Bay are less than 4 miles apart -- certainly close enough to warrant some engineering study as to the feasibility of separate or joint treatment plant facilities under the regional planning concept. This would solve the waste treatment facilities problems of both communities. This would be the responsibility and duty of the Regional Commission.

The Village of Silver Bay has paid $7,000 in engineering fees for preparation of the preliminary report. An additional $15,000 to $20,000 is the estimate for engineering fees for completion of final plans and drawings. We do not feel that the Village of Silver Bay should be expected to spend any additional monies in engineering fees until it has been determined by the Regional Commission whether separate or a joint treatment facility will be the acceptable solution.

A. A. Jensen

In contacts with the Regional Planning Office staff, we have been promised that because of earlier pollution control deadlines and the more stringent wastewater treatment plant effluent standards, the communities on Lake Superior would receive first priority.

For over 6 months we have made numerous telephone calls to their office inquiring as to their progress. Every time we called they stated they had not as yet received monies to hire the necessary personnel, but they expected that in a few weeks this would be corrected and they would be ready to proceed. We reminded them of the Village's stipulation agreement with the Minnesota Pollution Control Agency. We were informed not to be too concerned about the deadline with the Minnesota Pollution Control Agency, as they would have to realize the problems in funding, etc., of the Regional Commission. They assured us that in their opinion there would be no problem in being granted an extension of time on the stipulation agreement, or at least we could expect no pressure from the Minnesota Pollution Control Agency to meet our compliance schedule. We are still awaiting action by the Regional Commission.

As the Minnesota Pollution Control Agency knows, we have excessive infiltration of ground water into our sanitary sewer collection system, and this is in the process of being corrected. Our preliminary survey of the sewage collection system indicated that the largest portion of our infiltration was the discharge from footing drains into the sanitary sewer. After a public hearing on January 11, 1971, and further consideration of all alternate proposals, the Village Council on February 1, 1971, adopted Ordinance 102, requiring removal of footing drain discharges into the sanitary sewer, and residents were given 90 days in which to comply. As soon as this project has been completed, we intend to reexamine our collection system to determine if any portion of the collection system is defective and make the necessary correction. The final and legal implications are treated in a separate report.

MR. MERRITT: Mr. Jensen -- Mr. Chairman, that completes Mr. Jensen's statement.

I do have a comment in relation to these statements he made on Page 3 that I have just now reviewed for the first time.

Let me say this, Mr. Jensen, I don't know what was said over the past 6 months by any of our staff people. I seriously doubt whether this was said. There is no indication of time these statements were made, who said them from our staff or any of the other details. But let me just point out the agency does not subscribe to those statements, and that there is no extension of time being granted because of the regional system. What we are saying is we support the idea of the concept of regional treatment system -- or commission, and in the meantime we are not making statements like this. These have not been official statements of the agency, Mr. Jensen. I think you recognize that.

MR. JENSEN: I believe that it says they are not the statements of the agency. They are the statements of the staff at the Regional Planning Office.

MR. DOMINICK: Mr. Jensen, with respect to what you were informed about not being too concerned about the deadline of the Minnesota Pollution Control Agency, just let me reiterate that I think you should be concerned about those deadlines. This conference is concerned, and we will be awaiting a report from the State of Minnesota with respect to compliance with those deadlines.

One further question, who owns the treatment facility that is under discussion here?

MR. JENSEN: Reserve Mining Company.

MR. DOMINICK: Thank you.

MR. MERRITT: Mr. Chairman -- Mr. Chairman, unless there is any other representative here from the municipalities that were contacted by the Minnesota Pollution Control Agency, this will complete our Minnesota presentation.

I did receive a statement from Mr. Robert Wallace of the Wallace & Associates Mining Engineering Firm, representing a number of communities on the range. I do not think it necessary to have the statement read unless the gentleman would like to do so. It is a very short one, and then we could enter it in the record if there are copies. Would you like to do that, sir?

Is anyone here -- Mr. Baker, Mr. Wallace -- from the Robert Wallace & Associates? If so, maybe they could just give me copies and I will have them entered in the record.

(The above-mentioned statement follows.)

**ROBERT R. WALLACE
AND ASSOCIATES, INC.**

ROBERT R. WALLACE, President
JOHN J. BAKER, Vice President

MINING ENGINEERING CIVIL ENGINEERING - LAND SURVEYING
2031 Second Ave. E. Hibbing, Minnesota 55746
Post Office Box 481 Area Code 218 262-3200

April 22, 1971

Mr. John F. McGuire
Division of Water Quality
Pollution Control Agency
State of Minnesota
717 Delaware Street S.E.
Minneapolis, Minnesota 55440

Dear Mr. McGuire:

We are presently engaged by the following communities to prepare a preliminary engineering report on their sewage treatment facilities: Babbitt, Aurora, Hoyt Lakes, Gilbert, Town of Nichols, Kinney, Chisholm, Keewatin, Marble, Taconite, Coleraine-Bovey, and Meadowlands. In our preliminary work we have found a difference of thinking among these communities as to the time schedule to complete the work necessary to bring their treatment up to standard. So that the Minnesota Pollution Control Agency, the communities involved, and our engineering firm have common understanding, we are proposing the following schedule for the above named communities:

1. Preliminary Engineering Study - submitted to P.C.A. by September 30, 1971;
2. Construction plans and specifications pursuant to engineering report - submitted in time for acceptance by March 31, 1972;
3. Contracts for construction let to allow for completion by July 15, 1973. This will include both secondary and tertiary (phosphate removal).

As the guide for this time schedule we have used the stipulation between the Minnesota Pollution Control Agency and the Village of Hoyt Lakes.

We hope this will meet with your approval and unless we hear otherwise we will proceed on the above basis.

Very truly yours,

ROBERT R. WALLACE & ASSOCIATES, INC.

Robert R. Wallace

RRW/n.

Robert R. Wallace, P.E.

cc: Babbitt, Aurora, Hoyt Lakes, Gilbert, Town of Nichols, Kinney, Chisholm, Keewatin, Marble, Taconite, Coleraine-Bovey, and Meadowlands

MR. MERRITT: I believe I have one other request here now, Mr. Chairman.

Mr. Chairman, a representative of the Village of McKinley is here, but we would not need an appearance or statement at this time.

MR. DOMINCIK: Thank you very much.

That concludes Minnesota's portion?

MR. MERRITT: That completes the statement of the Minnesota conferees on this matter, Mr. Chairman.

MR. DOMINICK: All right. State of Wisconsin, your presentation on the red clay problem, please.

MR. FRANGOS: Mr. Chairman, you may recall at the last session there was an indication on the part of Wisconsin that we would be developing some specific programs directed at reducing the discharge of soil and sediments to the lake, which is a significant pollution source. At that time we indicated that we would reactivate a Wisconsin interagency group to develop some programs that were -- develop some action programs that would be directed at beginning to control the loss of these sediments to the lake.

This is a rather brief report of our State work to date for your information, and I will have that presented by Mr. Wisniewski of our Agency.

MR. DOMINICK: Thank you. Please proceed.

MR. THEODORE F. WISNIEWSKI
ASSISTANT TO ADMINISTRATOR
DIVISION OF ENFIRONMENTAL PROTECTION
WISCONSIN DEPARTMENT OF NATURAL RESOURCES
MADISON, WISCONSIN

MR. WISNIEWSKI: Ladies and gentlemen, I am Theodore Wisniewski of the Wisconsin Department of Natural Resources, and this is a progress report on erosion and sedimentation control development plan for the

South Shore of the Lake Superior Basin.

At the January meeting of the Lake Superior Pollution Enforcement Conference held in Duluth, Minnesota, a recommendation was made to develop a plan of work to control soil erosion and sedimentation in the red clay area of Lake Superior's South Shore. Following the conference, Governor Lucey reconvened the Wisconsin Red Clay Interagency Committee to develop a plan of work involving all appropriate State and Federal agencies. Specifically the objective of this work plan is to develop a program, which, when fully executed, will substantially reduce erosion and sedimentation caused by manmade activities in 5 to 7 years.

The Red Clay Interagency Committee consisting of representatives from the University of Wisconsin, Soil Conservation Service, the U. S. Geological Survey, the Department of Transportation and the Department of Natural Resources began its work on this assignment in February 1971. The progress of the committee is as follows:

General progress -- on January 22, 1971, the committee met with representatives of the Northern Environmental Council to review the recommendations made at the Lake Superior Pollution Enforcement Conference.

On February 24, 1971, the Committee determined that the existing members would prepare the first stages of the work development plan and then invite representatives of such agencies as the Bureau of Public Roads, Corps of Engineers, Agricultural Stabilization and Conservation Service, the U. S. Fish & Wild Life Service, River Basin Commissions, Northwestern Wisconsin Regional Planning Commission, Resource Conservation and Development Districts, Soil and Water Conservation Districts, and Bureau of Indian Affairs to participate in this effort.

The committee also agreed that the work plan development would be staged as follows: a. Stage 1 - Updating the status of the problems, determining additional information needs, determining action programs, identifying responsibilities. b. Stage 2 - Procurement of additional data and refining recommended action programs accordingly. c. Stage 3 - Developing costs and work schedules.

Specific progress -- the committee has developed an organization for preparing the work plan. The material will be prepared under the following land use types:

Agricultural Areas
Highways
Streambanks
Lake Superior Shoreline
Urban Development Sites
Forest Lands
Recreation Areas.

Under each one of the land use types, the following information will be organized:

Existing Information
Further Information Needs
Responsibilities

Present Controls (Policies, Regulations, Codes, Fund Limitations, State and Federal laws) and recommendations and Solutions and cost and work schedule.

The committee has prepared a first draft of the report on Stage 1, and is in the process of completing a second draft due on April 30, 1971.

Plans for completion of Committee assignment

The committee has set specific dates for the completion of Stage 2, which is the procurement of additional data and refining recommended action programs. It is anticipated that this effort will be completed by August 1971.

Stage 3, which concerns development of costs and work schedules, is planned for completion during the period of September 1 to October 31, 1971. It is anticipated that some current surveys and studies will be included in the recommendations.

While the committee assumes that its assignment is to prepare a complete work schedule, emphasis will be aimed at an acceleration of current efforts on such activities as stream and road bank stabilization. These activities have been recommended in the past by the Red Clay Interagency Committee. It can also be expected that while the Red Clay Interagency Committee has a target of the fall of 1971 for the completion of its reports, some interim action recommendations will evolve. An analysis will be made to determine whether new approaches are necessary, such as a total watershed effort, a series of subwatersheds and special demonstration projects. New legislative proposals will be developed where necessary.

I thank you.

(Attachments A & B of the above-mentioned report follow.)

Attachment A

## DESCRIPTIONS OF ALTERNATIVE METHODS OF DISPOSAL

1. Present method of discharge. Discharge all tailings and wastewater, untreated, directly to Lake Superior from existing facility at Silver Bay.

2. Proposed method of discharge. This encompasses the plan entitled, "Plan to Modify Tailings Discharge System," as presented at the Lake Superior Enforcement Conference. It entails hydro-separation of the coarser tailings and coagulation of the hydro-separator overflow. The combined underflow from the clarifiers and hydro-separators will be discharged in the conduit down the face of the existing delta, 150 feet below the lake's surface. The clarified overflow will be discharged to the harbor area.

3. Modified proposed method. Method No. 2 above modified for direct recirculation of clarifier overflow for use as process water with no discharge to the harbor. Assume an acceptable coagulant is used. Assume existing launderers are removed.

4. Lake shore tailings pond. A dike of coarse tailings would be built in the lake with the base approximately 100 feet deep. Subsequent to construction all tailings would be discharged to the pond with the overflow being recirculated as process water. The proposal would eliminate the discharge of any tailings to the lake other than the coarse tailings required to build the dikes.

5. Solids to denuded area. Separation of solids at plant site utilizing system as described in number 2. Solids would be hauled to a remote site for disposal in a denuded area. Complete recirculation of clarified water for use as process water.

6. Coarse material to Lake Superior, fines to land disposal. Coarse material would be separated at the plant without use of a flocculent utilizing processes described in number 2. This material would be discharged to Lake Superior in approximately 10,000 gallons per minute of water. The fine fraction of tailings would be discharged to a settling pond on land. Assume recirculation of any overflow from the pond for use as process water, and hence, no discharge from the pond area to a surface water course. Assume diversion of natural runoff around the pond.

7. Coarse material to Lake Superior, fines to land disposal, overflow to surface water course. Assume conditions same as No. 6 except that overflow from settling pond meets all applicable effluent standards for disposal of surface waters.

8. Total tailings on land, no discharge to a surface water course. Total tailings would be discharged to a settling pond with the overflow being recirculated for process water. All natural drainage would be diverted around the settling pond.

9. Total tailings on land, overflow to surface water. Total tailings would be discharged to a settling pond with the overflow from the site meeting all applicable effluent standards for disposal to surface waters.

10. Relocation of beneficiation plant near the existing mine site. Assume process water is obtained from the immediate area initially with complete recirculation of settling pond overflow thereafter. Assume makeup water is obtained from the immediate area.

# CRITERIA FOR EVALUATING
# ALTERNATIVE
# METHODS OF DISPOSAL

## WATER CONSIDERATIONS

1. Meets Federal-State water quality standards:
    a. 5 JTU turbidity
    b. 30 mg/l suspended solids
    c. 1 mg/l phosphorus
    d. 10/100 ml fecal coliform
    e. pH 6.5 to 8.5
    f. Secondary treatment or equivalent
    f. Non-degradation

2. Minimum discharge to surface waters
    a. Suspended solids
    b. Dissolved solids

3. Minimum appropriation of surface waters

4. Minimum discharge of chemical additives to surface waters

5. Esthetically pleasing

## LAND CONSIDERATIONS

6. Acceptable for:
    a. Wildlife
    b. Timber & pulp production
    c. Recreation

7. Esthetically pleasing

8. Reclaimable

9. Minimum post-operative maintenance

## OTHER CONSIDERATIONS

10. No dust problem

11. Flexibility to accomodate process changes

12. Adequate capacity to handle future tailings production

13. Economically feasible

14. Technically feasible

15. Reliability

16. Short construction time

MR. DOMINICK: Thank you very much for a fine report.

Any questions or comments on this report?

MR. STEIN: I would like to commend Mr. Wisniewski and the committee, because they are really raking new ground. As you can appreciate, we are dealing with nonpoint source areas of pollution. We know these are very important in controlling waste to the waters of this country, and this is one of the pioneer efforts in this regard. I think this is a very concise, logical and intelligent approach to the problem. I hope we will be able to pursue this and possibly have a breakthrough in the field. Thank you very much Mr. Wisniewski.

MR. FRANGOS: Mr. Chairman, I would just offer the additional comment that this does represent an effort to try to marshall government at all levels and direct programs so that we can come up with some kind of a comprehensive action program that is directed at starting to have some controls on this erosion problem. And I think what we would like to also see, as we move into this thing, is that we will take advantage of the National Environmental Protection Act, which does require now our environmental considerations of all Federal projects, and we also anticipate that we would have a parallel State statute in Wisconsin that would also require environmental impact statements on State projects.

As another example of this, I think I would like to introduce to you Mr. Merwin Knutson, who is the Chairman of the Carlton County Soil and Water Conservation District, who will briefly inform the conference of a proposed project between two Counties, Carlton County in Minnesota and Douglas County in Wisconsin, which also addresses itself to this problem.

## MR. MERWIN KNUTSON, CHAIRMAN
## CARLTON COUNTY SOIL AND WATER CONSERVATION DISTRICT
## CARLTON COUNTY, MINNESOTA

MR. KNUTSON: Thank you, Mr. Chairman.

Today I would like to discuss with you the Nemadji River erosion and sedimentation control project which is contained in Carlton County in Minnesota, Douglas County in the State of Wisconsin.

Two soil and water conservation districts have took it upon themselves to sponsor this project. They feel that there is an extreme erosion problem in the Nemadji watershed.

This river is contributing very much red clay and sediment into the harbor of Lake Superior at a very rapid rate. We do have tremendous clay slides on the upper tributaries up to Nemadji, and it has caused extreme damage to the trout streams and has made fishing very poor.

So today we would like to bring this to the attention of the conferees here.

I might give you a total description of the area.

The watershed has two main tributaries, the south fork of the Nemadji and the Black River. The south fork of the Nemadji outlets into the Nemadji in Wisconsin one mile east of the Minnesota-Wisconsin tate line. From this point the Nemadji River runs in a northeasterly direction. The Black River joins the Nemadji approximately halfway between the State line and Lake Superior. The Nemadji outlets into the Duluth-Superior Harbor.

The south fork of the Nemadji River serves as an outlet for the Nett River and Silver Creek. The Nemadji River serves as an outlet for Clear, Mud and Deer Creek and the Blackhoof River in Minnesota.

The lands in the watershed are largely forest and swamp. The main channels and tributaries are very well entrenched streams. The limited amount of farmland in the watershed is located along the flat ridge tops which separate the various tributaries. A majority of the farmland on the Minnesota side is located in the Blackhoof River tributary.

Due to relative steep slopes in the watershed along with frequent sand lens to a soil profile, unprotected red clay soils are unstable and therefore highly erodible and subject to slippage particularly along field gullies, roads, railroad cuts and streambanks.

We do have a large aerial photo on the back here, pinned up. We hope you will take the time to come up and view it, perhaps at Noon. It shows the Nemadji entering Duluth-Superior Harbor next to the Great Northern ore docks.

## NEMADJI RIVER

### Erosion and Sedimentation Control Project

**The Problem**

1. Effect on the Environment
   (a) Red Clays of the watershed subject to streambank and roadside erosion and slippage.
   (b) Sediment deposited in trout streams and Duluth-Superior harbor.
   (c) Sediment in Lake Superior water used by Cloquet Waterline.
   (d) Recreation value of Nemadji Watershed jeopardized by slippage and sediment.

2. Economic Losses
   (a) Poor quality water in the 8.4 million dollar Cloquet Waterline caused by sediment.
   (b) Yearly damages up to $5,000 per mile in the 350 miles of roads of the two-state area.
   (c) Costs up to $40,000 per year by the Burlington Northern to dredge channels for freighters.
   (d) Homes, wells and other developments severely damaged by slippage.

## Work Being Done

1. Research
   (a) Highway Departments are conducting studies to find solution to the slippage problem.
   (b) Cloquet Waterline studies are being conducted to find ways to correct water quality problem.
   (c) Wisconsin State University at Superior has proposed a study on sediment load and flora and fauna of the Nemadji.
   (d) Red Clay Interagency Committee in Wisconsin has conducted erosion control studies.

2. Corrective Action to the Environment
   (a) Farmers are establishing conservation practices on farmlands.
   (b) Highway Departments are making plantings to control roadside erosion.
   (c) Railroads have controlled some slides with piling.

## Project Needs

1. Demonstration projects designed to control erosion and sediment in all Lake Superior Red Clay area.
2. Study of Nemadji River Watershed involving problems of the red clay.

Sponsors: Carlton County Soil and Water Conservation District,
Barnum, Minnesota
Douglas County Soil and Water Conservation District
Superior, Wisconsin

A joint project measure in the Onanegozie (Minesota) Resource Conservation and Development Project and the Pri-Ru-Ta (Wisconsin) Resource Conservation and Development Project.

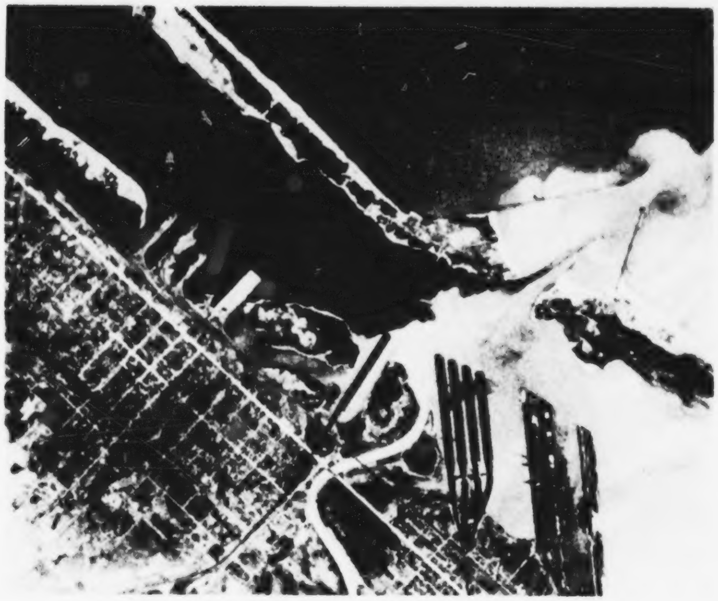
So we are here today to bring you the information we do have. We are in the process of seeking funds to develop demonstration sites and hope that we can come up with some ideas on how to control the severe erosion problem.

Thank you, sir.

(Statement in its entirety follows.)

# NEMADJI RIVER

## Erosion And Sedimentation Control Project



Carlton County, Minnesota          Douglas County, Wisconsin

A joint project measure in the Onanegozie (Minnesota) Resource Conservation and Development Project and the Pri-Ru-Ta (Wisconsin) Resource Conservation and Development Project.

Sponsored by:

Carlton Soil and Water Conservation District, Carlton, Minnesota

Douglas County Soil and Water Conservation District, Superior, Wisconsin

January, 1971

Cover Picture:

Mouth of Nemadji River as it discharges sediment into the Superior-Duluth Harbor adjacent to the Burlington Northern Railroad ore docks. The BN docks, to the right of the river mouth, are the largest in the world. Sediment discharged by the river (the lighter colored areas of the picture) is spilling into Lake Superior through the Superior entry in the form of a huge cloud at the ends of the outer breakwater. Note that the water in the inner harbor (upper left) is relatively clear in comparison to the water in Lake Superior itself (upper right.) The Cloquet Water Line intake is in the extreme upper center portion of the picture about two miles out in Lake Superior.

# NEMADJI RIVER EROSION AND SEDIMENTATION CONTROL PROJECT

MINNESOTA - WISCONSIN

February, 1971

## SUMMARY

1. The project proposal is called the Nemadji River Erosion and Sedimentation Control Project, and involves the entire Nemadji River Watershed. The upper part of the watershed is in Minnesota and the mouth of the river is in the City of Superior, Wisconsin.

2. The Nemadji River Watershed is scenic and beautiful country. Much of it is wilderness and is accessible only on foot or by off-road equipment. At the same time soil deterioration is evident, characterized by stream-bank erosion, roadside erosion and slippage, and general land slippage, especially on the red clay portion of the watershed. Fine clay particles are picked up in runoff water as a result of the erosion, and are carried into the Duluth-Superior harbor and eventually into Lake Superior. Use of the harbor by ships coming through the Great Lakes Seaway is being impaired to the extent that annual dredging of sediment is needed. In addition, Lake Superior is being polluted from suspended solids and is frequently discolored to the point that its potability and continued suitability for industrial use is questionable. Much of the red clay sediments pouring in the harbor come from the Nemadji River (see picture cover).

3. Sponsors of the proposed project are: (1) the Carlton County Soil and Water Conservation District in Minnesota, and (2) the Douglas County Soil and Water Conservation District in Wisconsin.

4. The sponsors seek funds to develop a plan of action for the Nemadji River Erosion and Sedimentation Control Project. The aim of this plan is to correct or abate the situation described above.

## INTRODUCTION

At the invitation of the Carlton Soil and Water Conservation District Supervisors, a group meeting was held in the Carlton County Courthouse on December 21, 1970 to discuss the erosion and sedimentation problem originating in the Nemadji River Watershed. Attending the meeting were County Commissioners and Supervisors of Carlton County, Minnesota and Douglas County, Wisconsin; Soil and Water Conservation District Supervisors of Carlton County, Minnesota and Douglas County, Wisconsin; County Highway Engineers from Wisconsin and Minnesota; representatives of the Minnesota Highway Department; Assistant City Engineer of the City of Cloquet; representative of the Natural Resource Department, State of Wisconsin; Extension Service Personnel from Minnesota and Wisconsin; Soil Conservation Service Personnel from Minnesota and Wisconsin; and a representative of the Upper Great Lakes Regional Commission.

The Carlton County Soil and Water Conservation District and the Douglas County Soil and Water Conservation District are joint sponsors, along with the Onanegozie (Minn.) and Pri-Ru-Ta (Wis.) Resource Conservation and Development Projects.

The erosion and land slippage taking place within the watershed and the resulting sedimentation of Lake Superior was of concern to those attending this meeting. It is a problem that has no easy solution. However, while some work has been done to find some answers, the problems still remain.

The problems that occur because of erosion and slippage are many and complex. Some that have a very significant impact to our area are:

1. The erosive red clay soils in both states create complex situations such as streambank erosion, streambank slippage, general land slippage, roadside erosion, roadbank slippage, deposition of sediments in the Duluth-Superior harbor and transportation of finely suspended particles into Lake Superior. Opportunities exist to attack this regional problem in the Nemadji watershed. The aim is to halt or slow down the prevalent erosion by united efforts. The attack can then be expanded to other watersheds and areas in the red clay region as remedies are tested and hopefully become successful in the Nemadji Watershed.

2. Protection of our roadbeds from slippage and erosion thereby avoiding danger to human life. The State Highway Departments are constantly making repairs to highways in Minnesota and Wisconsin. These repairs are needed practically on a continous basis due to the slippage.

3. Protection and preserving fish and wildlife habitat.

4. Reduce stream and harbor siltation. The Army Corps of Engineers report that they remove between six and seven thousand tons of silt yearly from Superior Harbor adjacent to the Nemadji River. This is equivalent to about ten tons per square mile of watershed.

5. The U.S. Geological Survey estimates that 90% of the red clay soil particles, from the nearby Brule and Bad River Watersheds, stay in suspension while the remaining 10% is deposited as bed load. These rivers and the Nemadji pick up their red clay loads from the same soil types. Pending further studies, it is assumed the same proportions apply to the Nemadji as are estimated for the Brule and Bad Rivers. After heavy rains, a large red fan of silt can be seen in the harbor and out into Lake Superior opposite the mouth of the Nemadji River.

6. Aesthetics of this beautiful area are marred by the unsightly areas of hillsides that have slipped downhill because of excessive moisture. Also, the attractiveness of the largest fresh water lake is reduced because of the red murky water.

7. A water line serving Cloquet and surrounding areas is having problems after a heavy rain because of the excessive sediment and discoloration in the water. People who are responsible for proper functioning of the pipeline indicate they may have to extend the inlet for this line out into the lake much farther to reduce the amount of sediment in the water. The intake is presently about two miles offshore. Communities along the water line have indicated a reluctance to continue useage or hook-up to the Cloquet water line.

8. Valuable real estate is in jeopardy of being undermined.

9. Property values decrease as erosion and slippage occur.

10. Industrial expansion has been hampered due to unavailability of quality water.

## OBJECTIVES

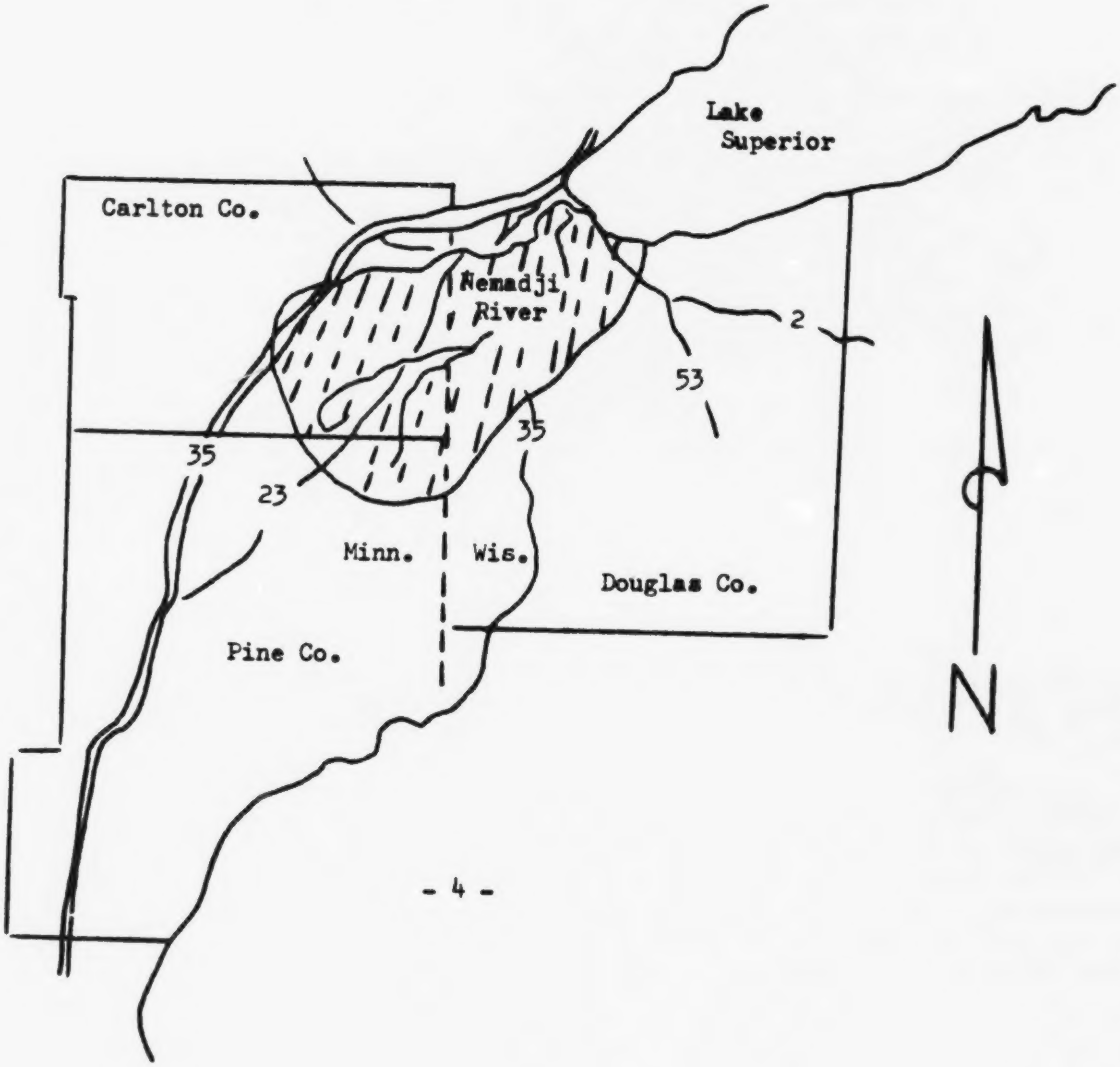
The objective of this project proposal is to seek assistance in finding a reasonable solution to the erosion, sedimentation, and land slippage in the Nemadji River Watershed and its tributaries.

The sponsors want to develop a plan that identifies solutions to the problems along with cost estimates for carrying out the plan. It is our hope and intent that this project proposal will reduce the erosion, slippage and sediment that is now finding its way into Lake Superior. In addition, we look forward to a better environment and that the endeavor will halt the ecological and economic losses that are occurring.

## LOCATION

The Nemadji River Watershed contains approximately 492 square miles. Fifty (50) square miles are in the northeastern part of Pine County and 227 square miles are in eastern Carlton County. Approximately 215 square miles of the lower end of the Watershed are located in the northwestern part of Douglas County, Wisconsin.

The Nemadji River and its tributaries empty into the Duluth-Superior harbor adjacent to the Burlington Northern Ore Docks in Superior. Water flows from the harbor through the Superior entry into Lake Superior.


Lake Superior
Carlton Co.
Nemadji River
2
53
35
35
23
Minn.
Wis.
Douglas Co.
Pine Co.
N

## WATERSHED

### DESCRIPTION OF AREA

The watershed has two main tributaries, the south fork of the Nemadji and the Black River. The south fork of the Nemadji outlets into the Nemadji ~~River~~ in Wisconsin one mile east of the Minnesota-Wisconsin state line. From this point the Nemadji River runs in a northeasterly direction. The Black River joins the Nemadji approximately 1/2 way between the State line and Lake Superior. The Nemadji outlets into the Duluth-Superior harbor.

The south fork of the Nemadji River serves as an outlet for the Nett River and Silver Creek. The Nemadji River serves as an outlet for Clear, Mud and Deer Creek and the Blackhoof River in Minnesota. Balsam Creek, ~~Miller Creek~~, ~~Empire Creek and Copper~~ Creek are designated trout ~~streams in the Wisconsin portion of the~~ watershed.

The lands in the watershed are largely forest and swamp. The main channels and tributaries are very well entrenched streams. The limited amount of farmland in the watershed is located along the flat ridge tops which separate the various tributaries. A majority of the farmland on the Minnesota side is located in the Blackhoof River tributary.

Due to ~~the~~ relatively steep slopes in the watershed along with frequent sand lens ~~in the~~ soil profile, unprotected red clay soils are unstable and therefore highly erodible and subject to slippage particularly along field gullies, roads, railroad cuts and streambanks.

### SOILS

The Red Clays are a geologically young formation with natural erosion processes still occurring at a relatively high rate. These processes are accelerated whenever and wherever steep slopes are exposed due either to natural or man made causes. The level of sedimentation in the streams can be classified as "accelerated" following catastrophic floods and "continuing" in the normal flow. Abnormally heavy rains have periodically accelerated erosion on the exposed clay soils. Man has also speeded up erosion through certain agricultural activities, timber cutting and road bed construction.

The red clay soils causing most of the problem were laid down by water. Due to the size of the soil particles, they stay in suspension a long time after they have been picked up by erosive action of the water. The particles create the discoloration in Lake Superior which is often seen in the Lake outside the Superior harbor entry after severe rain storms or along much of the shoreline of Lake Superior after a churning windstorm from the northeast.

## CLIMATE

The climate is generally cool in summer, and the winters are long. Rainfall is about 30 inches.

## LAND USE

At the present time lands used for agriculture purposes are quite limited. About 10% of the area is in active agricultural use. Most of the agricultural lands are limited to farmers who usually have small acreages in their farms. These farms are generally dairy oriented.

For the most part, forests cover the watershed. Originally, most of the land was covered with conifers. Today, the forests consist of a mixture of hardwoods and conifers, with aspen as the predominate tree species.

Land slippage and streambank erosion is common and are major sources of sedimentation. Unsightly raw banks, heavily sedimented streams and loss of fishery resources are environmental liabilities in the watershed.

## LAND OWNERSHIP

The land ownership pattern is mixed between private and public ownership. It is estimated that approximately 50% of the watershed in Minnesota is owned by the State of Minnesota consisting of part of the Nemadji State Forest and Jay Cooke State Park. In Wisconsin, about 40% of the area is in public ownership. This includes large acreages of county forest land and Pattison State Park. In Carlton County, the majority of public owned land lies east of State Highway 23.

## TRANSPORTATION

State, county and township roads traverse the area along with the Burlington Northern and Soo Line Railroads which serve the Superior-Duluth Seaport. All transportation systems have maintenance problems on their roadbeds because of the unstable red clay soils.

## EXISTING FACILITIES AND ENTERPRISES IN THE WATERSHED AFFECTED BY THE PROBLEM

1. Roads
   The state, county and township roads in the watershed are suffering severe annual damages because of excessive land slippage. Roads require annual clean out of ditches and replacement of large sections of road fill. The soils may shift because of disturbance by construction operations or because of natural geological forces. Minnesota Highway Department has approximately 10 miles of Highway 23 in the

watershed subject to slippage damage. The Carlton County Highway Engineer reports about 160 miles of township and county roads subject to excessive erosion.

Wisconsin reports 21 miles of state, 51 miles of county, and 126 miles of town roads for a total of 198 miles of roads in the watershed.

Following are estimates of the amount of roadside erosion in the Douglas County portion of the publication "Erosion on Wisconsin Roadsides Inventory."

Erosion of Wisconsin Roadsides - 1969

| | | |
|---|---|---|
| State & Federal Highways | 6,400 | Sq. ft. |
| County Highways | 148,120 | " " |
| Township Roads | 258,195 | " " |
| | 412,715 | " " |

Even though these may not appear to be large amounts, some indication of damage costs are shown under item "1", "Economic Impact in the Watershed," following this section.

The Wisconsin inventory also provided estimates for kinds of control needed:

| | | |
|---|---|---|
| Fertilizer, seed, mulch | 244,195 | Sq. ft. |
| Slope, fertilizer, seed, mulch | 144,760 | " " |
| Structure, slope, fertilizer, seed, mulch | 53,760 | " " |
| | 412,715 | " " |

2. Cloquet Water Line
The 8.4 million dollar Cloquet Water Line is faced with a severe problem of poor water quality during certain periods of the year. Excessive quantities of suspended red clay sediment are entering the intake after periods of peak run-off. Sediment carried into Lake Superior colors the water, making it unacceptable for human consumption and industrial use. The sediment may require extending the intake farther into Lake Superior at a very substantial cost due to increasing depth of water.

3. Recreation
Excessive amounts of sediment greatly limit the present recreational value of the Nemadji River and its tributaries for fishing, nature study, and sightseeing. Raw eroded slippage banks, ugly erosion scars, and sediment covered banks discourage hikers and nature students. Suspended and bed load sediment smother fish eggs, decrease primary production, and hinder fish feeding. Many of the tributaries of the Nemadji are considered trout streams. There are 12 miles of average and 27 miles of marginal in Douglas County alone. The Minnesota portion of the watershed contains about 40 miles of trout streams, of which half or 20 miles are classified as good trout water and the remaining poor

to fair. Designated trout streams in Carlton County are Blackhoof River, Clear Creek, Anderson Creek, Big Silver Creek, Big Net River, Little Net River, State Line Creek, and Deer Creek. Wisconsin trout streams include Big Balsam Creek, Little Balsam Creek, Empire Creek, Black River, Miller Creek, and Copper Creek. Filling in of pool cover areas and loss of food production is the main mechanism of sediment damage to trout stream portions of the Nemadji River system. Elimination of sediment inputs on tributary streams would be expected to cause substantial improvements in trout management values. The lower Nemadji River has a limited warm water fishery probably consisting mainly of walleye, northern pike and panfish. This fishery would also be expected to improve significantly if erosion were controlled on the watershed. The lower Nemadji has potential for canoeing but is seldom used for that purpose due to the condition of the water and banks.

4. Navigation in Duluth Harbor
Sediment causes a navigation problem in the harbor at Duluth-Superior. The Corps of Army Engineers is continually dredging to keep channels deep enough for Great Lakes and ocean freighters.

## ECONOMIC IMPACT IN THE WATERSHED

1. Minnesota Highway Department
The Minnesota Highway Department reports repair costs due to slippage damage of $6,500 in 1968, $21,000 in 1969 and $10,000 in 1970 along a single three mile section of Highway 23 in Carlton County. In addition to these costs, $7,500 was expended in a special drainage project involving a small section of highway where perforated pipe was installed in the roadbank in an attempt to correct the slippage problem through removal of seepage water.

2. Carlton County Highways
Damage caused by erosion and slippage on county roads in the Nemadji River Watershed, Carlton County, costs approximately $4,000 yearly on repair of the areas which are constantly sliding and eroding. In 1969, a channel change on a tributary cost $3,445.29 to prevent erosion of the slopes on a County State-Aid Highway.

3. Cloquet Water Line
Unless the sediment problem can be solved, the intake of the Cloquet Water Line will have to be extended farther into Lake Superior. The cost of the original intake line beyond Minnesota Point, was over $800,000 for two miles of pipeline into the lake. An extension of this would be more costly due to increased depths and the rise in construction costs. By solving the sediment problem at its origin, this cost could be avoided.

4. Northwest Paper Company Expansion
Northwest Paper Company located at Cloquet, Minnesota, served by the Cloquet Water Line is planning a $45 million expansion of its present facility. This expansion would require an increase from 300,000 to 500,000 cords of pulpwood per year. At an average cost of $20 per cord, this would mean added $4 million per year for local timber producers and pulp cutters. Due to the tremendous need for water in the manufacture of paper, the expansion of the plant is considerably dependent on the water line to supply quality water.

5. Carlton County Industrial Park
A Carlton County Industrial Commission recently was organized to establish an industrial park in northeastern Carlton County. It is proposed to locate the park near the Cloquet Water Line. The development of the park and the resulting industry is dependent on the quality of water provided by the water line.

6. The Burlington Northern Railroad apparently has been able to stabilize the roadbed approaching the bridge over the Nemadji River near Boylston Junction with piling and grouting over the years. However, it is obvious that this has been achieved at great cost.

7. Foundations of homes, barns and other buildings are occasionally endangered by slippage and some rural residents are faced with the eventual loss of individual wells due to the same cause.

8. The Burlington Northern Ore Docks (adjacent to the mouth of the river) have had to dredge the following material during the last three years to maintain the 27 foot channels required of freighters entering their docks.

| | |
|---|---|
| 1968 | 13,000 cu. yds. |
| 1969 | 19,800 cu. yds. |
| 1970 | 20,945 cu. yds. |

Cost data supplied by Burlington Northern shows an outlay of $46,200 to do the 1970 work. Measurements are now being made for 1971 work. They also state they will not be allowed to scuttle dredged materials in Lake Superior like they have been doing. It is anticipated costs will increase as a result.

## WORK THAT HAS BEEN DONE

1. Highway Department Research
   The Minnesota Highway Department along Highway 23 installed perforated drainage pipe in the road bank to provide soil drainage. A layer in this soil becomes fluid upon saturation. As this layer becomes fluid, the upper heavier soils slide down the slope causing damage to the highway. As a trial, the Highway Department spent $7,500 to observe the effect of this type of drainage.

   The Division of Highways in Wisconsin is conducting measurements of the lateral movement of soils at two locations in red clay areas in Douglas County. Extent and costs have not yet been determined.

2. Cloquet Water Line
   Due to poor water quality caused by turbidity, readings as high as 100 and over have made the city of Cloquet unable to use water for periods of up to ten days. The Superior Water, Light and Power Company and the Northwest Paper Company were without Lake Superior water for longer periods during 1970. Studies are now underway to determine the best solution to the water quality problem. Filtration, the extension of the intake line and building additional storage are possible alternatives. The ideal solution would be the removal of the causes of the high turbidity.

3. The Red Clay Interagency Committee in Wisconsin was active for several years making studies and conducting field trials in Bayfield, Ashland and Douglas Counties. The committee was composed of technicians from various state and federal agencies interested in the problem. Some streambank and erosion control work was done. The committee has been reconvened by the request of Governor Patrick Lucey.

4. Farmer landowners generally maintain their farms in productive soil-holding cover crops by using improved varieties of grasses, agricultural limestone and commercial fertilizers. The active farmers are effectively preventing silt from reaching the streams.

5. Governmental units recognize that road construction and maintenance should include adequate erosion control structures, proper sloping of banks, fertilization, and seeding of soil-holding grasses and legumes. However, especially in the cases of townships, funds are limited so much of the needed work remains undone. In Douglas County as well as the rest of Wisconsin, a study was made detailing the roadside erosion problem, township by township. From this inventory, an estimate of the Douglas County portion of the Nemadji Watershed shows that about 413,000 square feet of roadsides need attention, on a total of about 200 miles of roads.

6. Large corporations such as the Burlington Northern Railroad, have had the resources to tackle their immediate problems to control deterioration of their fills and roadbeds over the years. Their measures have included costly piling, pumping of grout into the ground in critical places, landscaping, and extensive draining or ditching along their roadbed.

7. The Minnesota Department of Natural Resources, Division of Game and Fish, worked on a six mile section of the Blackhoof River in Carlton County in the early fifties. Over $17,000 was spent in controlling bank erosion, creating cover and pools with channel devices and providing better fishing conditions through selective brushing. The following is a summary of the work done on the Blackhoof River:

| | |
|---|---|
| Trees planted | 14,000 |
| Channel dams | 5 |
| Deflectors | 39 |
| Digging logs | 4 |
| Shelters | 15 |
| Banks stabilized | 18 |
| Rocky areas channeled | 3 |
| Log jams removed | 2 |
| Fencing (rods) | 120 |
| Selective stream brushing | 5 miles |
| Trails brushed | 7 miles |

8. The Douglas County Agricultural Stabilization and Conservation Service have proposed the Nemadji Watershed a special pilot project area under the Rural Environmental Assistance Program. Under the REAP Program, farmers in the watershed will be urged to participate in special practices aimed at reducing run-off of animal wastes and abatement of soil erosion.

   As an incentive for increased participation, a high rate of cost-sharing has been proposed for the following practices:

   > Establishing sod waterways, structures to protect water outlets and channels, storage of animal waste to reduce pollution, diversions for management of animal wastes and other animal waste management practices.

9. The Carlton County Agricultural Stabilization and Conservation Service is considering the Nemadji Watershed as a special project under the Rural Environmental Assistance Program. This project would also encourage landowners to participate in special practices designed to reduce run-off of animal wastes and control of soil erosion.

## CONSIDERATIONS FOR PROJECT PROPOSAL

We are asking the Upper Great Lakes Regional Commission to fund the Nemadji River Watershed Erosion and Sedimentation Control Project with sufficient resources to develop a project plan that includes, but not necessarily limited to, the following items:

1. Locating the problem areas.
2. Identifying the problems.
3. Extent of the problems.
4. Recommendations as to solving the problem.
    a. Indicating types of solutions.
    b. Extent and quantities needed to correct the problems.
5. Estimates of cost to correct the problem.
6. Possible ways to fund the construction of proposed solutions.
7. A proposed timetable for the completion of listed problems.
8. Agencies that could assist the local people in their project.
9. To demonstrate how the results of this study could be used to develop a Master Regional Plan for controlling erosion and sediment in all Lake Superior Red Clay areas.
10. Establishment of "pilot" reaches of highways and streambanks in both states to use for experimental control purposes and to apply the measures already available for use.

Numerous agencies including the following have reviewed the Nemadji River Erosion and Sedimentation Control project proposal:

Resource Conservation and Development Projects
  Pri-Ru-Ta RC&D
  Onanegozie RC&D

County Governments
  Carlton County Board of Commissioners
  Douglas County Board of Supervisors

City Governments
  Superior
  Cloquet

Douglas County Planner

Superior Douglas County Development Association

Northern Environmental Council

Red Clay Interagency Committee

Burlington Northern Railroad

Regional Planning Commission
  Arrowhead Regional Planning Commission
  Northwest Regional Planning Commission

Wisconsin Association of Soil and Water Conservation Districts

Minnesota Association of Soil and Water Conservation Districts

Wisconsin State Soil Conservation Board

Minnesota State Soil Conservation Commission

Universities
  University of Wisconsin Extension Service
    Douglas County Extension Service
  University of Minnesota Extension Service
    Carlton County Extension Service
  Wisconsin State University at Superior

Department of Natural Resources
  Minnesota Division of Game and Fish
  Minnesota Division of Lands and Forestry
  Wisconsin Division of Fish, Game & Enforcement
  Wisconsin Division of Forests and Parks
  Wisconsin Division of Environmental Protection

Highway Departments
  Minnesota Department of Highways
  Carlton County Highway Department
  Wisconsin Division of Highways
  Douglas County Highway Department

U. S. Department of Army
  Corps of Engineers

Environmental Protection Agency
  National Water Quality Laboratory

U. S. Department of Agriculture
  ASCS State Committees
  Douglas County Agricultural Stabilization and Conservation Service
  Carlton County Agricultural Stabilization and Conservation Service
  Soil Conservation Service, Minnesota
  Soil Conservation Service, Wisconsin
  Forest Service

MR. DOMINICK: Thank you very much. Any questions or comments?

Very good.

Any further discussion from the State of Wisconsin?

At this point I would like to insert in the record a letter from the District Engineer of the U. S. Corps of Engineers to Mr. Louis Breimhurst of the Environmental Protection Agency. This letter indicates that the Corps of Engineers on all of the vessels plying the waters of the Great Lakes in the St. Paul District will be provided with retention systems or evaporative toilet systems to handle the vessel pollution problems aboard those craft.

This is a forward looking and aggressive position to be taken by the Corps of Engineers, and we compliment them for it.

(The above-mentioned letter follows.)

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
1210 U. S. POST OFFICE & CUSTOM HOUSE
ST. PAUL, MINNESOTA 55101

IN REPLY REFER TO
NCSCO-MA

19 April 1971

Mr. Louis Breimhurst
Environmental Protection Agency
Federal Water Quality Administration
7401 Lyndale Avenue South
Minneapolis, Minnesota 55423

Dear Mr. Breimhurst:

Reference is made to your telephone conversation with Mr. S. Grove, Jr., of my staff on 14 April 1971 regarding installation of sewage systems on board floating plant operated by the St. Paul District Corps of Engineers on the Great Lakes.

I am pleased to inform you that we have programmed total retention sewage systems for various units of floating plant in accordance with the following schedule:

| NAME OF UNIT | TYPE OF SYSTEM* | INSTALLATION |
|---|---|---|
| Dipper Dredge COL. D. D. GAILLARD | MRS w/holding tank | 5 May 1971 |
| Derrickbarge COLEMAN | " " " | " |
| Crane Barge DKS-20 | " " " | " |
| Tug LAKE SUPERIOR | ETS | 30 Apr 1971 |
| Tug DULUTH | " | 20 Jul 1971** |
| Tug MARQUETTE | " | 20 Jul 1971 |

*MRS: Modular Retention System (Aircraft Type) as manufactured by Monogram Industries
ETS: Evaporative Toilet System as manufactured by General American Transportation Corp.
**Completion date may be bettered depending on contractural deliveries.

Sincerely yours,

Charles I McGinnis
CHARLES I. McGINNIS
Colonel, Corps of Engineers
District Engineer

MR. DOMINICK: Additionally, I would like to have placed in the record the report on Federal facilities which has been prepared by the Environmental Protection Agency.

(The above-mentioned report follows.)

# SUMMARY OF WASTE TREATMENT AND DISPOSAL AT FEDERAL INSTALLATIONS WITH SURFACE WATER DISCHARGES IN THE LAKE SUPERIOR BASIN

## U.S. Air Force

1. K.I. Sawyer Air Force Base - Preliminary planning is in progress to provide phosphate removal for sanitary wastes, with completion expected by June 1971; completion of final designs is scheduled for August 1972. Funds have been requested for connecting the industrial waste discharges to the base sanitary sewer system. This work cannot be accomplished, however, until the implementation of the above plans. It is anticipated that connection will be completed by December 1972.

2. Duluth Air Force Missile Site - Permanent chlorination facilities have been installed to the waste treatment facilities. This installation is now in compliance with enforcement conference recommendations.

3. Kincheloe Air Force Base - Due to the previous uncertainty regarding the status of this installation, it has not been previously reported. However, present information indicates that the base will remain in operation, and plans are in progress to install phosphate removal equipment by the target date set by the Lake Superior Enforcement Conference.

## U.S. Coast Guard

1. Passage Island Light Station - FY 73 funds will be requested for installation of a drain field plus chlorination to upgrade the treatment which presently consists of a septic tank. This station is expected to be unmanned and automated during FY 76.

2. Rock of Ages Light Station - FY 73 funds will be requested to install a sewage holding tank with treatment to be provided by the Hancock municipal system. This station is expected to be unmanned and automated during FY 76.

3. Duluth Entrance Harbor Light Station - This installation is to be unmanned and automated by FY 73. As an interim measure, a portable holding tank will be utilized and wastes will be discharged to the local municipal sewer system.

U.S. Forest Service:

1. Clark-Helen Day Use Area, Sylvania Campground - Construction of a sewer system, aerated lagoon, spray irrigation and chlorination has been completed. This installation is now in compliance with conference recommendations.

2. Kenton Dwellings 1, 2 and 3 - The connection to the Kenton Ranger Station package sewage treatment plant has been completed. This installation is in compliance with the conference recommendations.

3. Black River Campground - The final design for replacing the existing septic tank with an aerated lagoon and irrigation system is expected to be completed by July 1, 1971. Construction completion is anticipated by December 1972.

4. Whiteface Reservoir Campground, Minnesota - FY 71 funds were approved for construction of a vault type system, with provisions to transport wastes to a central treatment facility. Completion date is anticipated by December 1972.

5. Two Lakes Campground, Wisconsin - Preliminary plans have been completed for a vault type system from which wastes will be transported to a central waste treatment facility. Completion of construction is anticipated by December 1972.

Vessels:

U.S. Coast Guard:

1. Cutter "Woodrush" - FY 71 funds have been approved for discharge of wastes from a sump on the vessel to a dockside holding tank from which wastes wil be pumped to the municipal sewer system. Development work is continuing to perfect a package secondary treatment plant for shipboard installation.

U.S. Corps of Engineers:

Six Corps of Engineers floating plants will be provided with a recirculating evaporating holding type toilet. Procurement has been initiated and installations will be completed as soon as the equipment is received.

MR. McDONALD: Mr. Breimhurst, do you have that report?

MR. DOMINICK: Are there any questions or comments from the conferees on matters that have been covered this morning?

Members of the conference and ladies and gentlemen, as we come down the home stretch on this conference on the abatement of pollution in the waters of Lake Superior, I would like to present a statement to the conferees and to those in attendance at this conference as I carry out my responsibilities as the Commissioner of the Water Quality Office of the United States Environmental Protection Agency.

After due deliberation on the evidence presented at the Enforcement Conference yesterday --

MR. FRANGOS: Excuse me, Mr. Chairman. I'm sorry to interupt. Could we have a couple of more copies for this end of the table?

MR. DOMINICK: Excuse me. I've caught a wicked cold here. I'll start again. Not here in Duluth, no -- I am sure I brought it with me.

After due deliberation on evidence presented at the conference yesterday and after reviewing the history and the progress of the Lake Superior Enforcement Conference, I have reached a conclusion in my capacity as Acting Commissioner of the Water Quality Office of the Environmental Protection Agency.

I have concluded that the proper course of action to follow with respect to the continuing discharge of taconite tailings by the Reserve Mining Company into the interstate waters of Lake Superior is to recommend to the Administrator of the Environmental Protection Agency, William D. Ruckelshaus, that he initiate proceedings under Section 10(c)(5) of the Federal Water Pollution Control Act, as amended, against the Reserve Mining Company at Silver Bay, Minnesota.

My conclusions leading to this decision are as follows:

1. Since this conference was initiated and up until the present day, the Reserve Mining Company is continuing to discharge over 60,000 tons of taconite tailings into Lake Superior every day.

2. The discharge of these taconite tailings has continued unabated and with no substantial modification since this conference was first initiated, in May of 1969.

3. With the evidence presently before me, I am persuaded beyond a reasonable doubt that these discharges constitute a violation of duly adopted and formally approved Federal-State Water Quality Standards lawfully applicable to the interstate waters of Lake Superior.

In addition, violation of other standards may be discovered upon further analysis, and these will be duly cited in any recommendations to the Administrator of the Environmental Protection Agency. I will not cite these specific standard violations here, but they will be cited in any further proceedings.

4. Testimony, studies and investigations presented to this Lake Superior Enforcement Conference have led to the unanimous conclusion of the conferees that interstate pollution from the Reserve Mining discharge is occurring and that evidence has been presented showing the presence of taconite tailings in the waters of Wisconsin within Lake Superior. These findings were made after the Second Session of the conference in April and August of 1970.

5. The Reserve Mining Company has on two occasions failed to meet the requirements of this conference. These are:

i) Final progress report was to be submitted by Reserve Mining Company to the conferees by July 26, 1970. This report did not get to the conferees until August 12, 1970.

ii) Preliminary plans for abatement of pollution were due by December 1, 1970. An extension was requested on November 28, 1970. The request was not acted upon. The conference reconvened on January 14, 1971, and Reserve presented its report late at that time.

6. The State of Wisconsin has in open session yesterday declared its desire that the Federal Government take direct action in the event that rapid resolution cannot be obtained through the existing conference mechanism.

7. The Governors of Minnesota and Wisconsin have publicly announced their desire to abate any further discharge by the Reserve Mining Company of taconite tailings into Lake Superior.

8. The conferees of the State of Minnesota have not presented to this conference a position or proposal for the abatement of pollution by the Reserve Mining Company.

9. The Technical Committee assigned by this conference in previous sessions to evaluate proposals submitted by the Reserve Mining Company has found such proposals to be either insufficient in terms of details and engineering specifications upon which technical evaluation could be made or that the proposal of the Reserve Mining Company for in-lake disposal of the taconite tailings was unacceptable for the future protection of Lake Superior from further water quality degradation.

Based upon these circumstances, I can only conclude that the time for direct and immediate Federal action is at hand. In the event that the Administrator of the Environmental Protection Agency adopts the course of action which I will recommend to him, the Reserve Mining Company will be required to propose a plan for pollution abatement which is acceptable to the United States Environmental Protection Agency within

180 days or be subject to a suit by the United States pursuant to Section 10 (g) of the Federal Water Pollution Control Act for violation of established and lawful water quality standards. Additionally, in the event that satisfactory arrangements for the abatement of pollution cannot be established during the 180-day-notice period, the Environmental Protection Agency may also consider action under the River and Harbor Act of 1899.

I look forward to the Reserve Mining Company entering into good faith negotiations immediately upon being served with Notice by the Environmental Protection Agency, and I assure the company that explicit guidelines and instructions will be issued with respect to appropriate development of pollution abatement facilities and techniques.

I wish to announce further that it is the intention of the Environmental Protection Agency to employ an independent consulting firm of national reputation to assist us in reaching an objective evaluation of the many technical, economic and environmental issues involved.

Ladies and gentlemen, I can only conclude that the people of Minnesota, the people of the United States, and those who have participated diligently in this Lake Superior Conference have grown weary and frustrated over the continued inability to find a satisfactory resolution of this most difficult pollution problem. Resolution must be found and the pollution must be abated in a practical way and in the shortest possible period of time if we are to preserve the heritage of Lake Superior for future generations. I believe that the course that I have stated here and which I will recommend to the Administrator of the Environmental Protection Agency constitutes the best, and indeed in view of the circumstances that I have ennumerated surrounding the proceedings of this conference, the only intelligent means of solving this problem. At the conclusion of this conference I will urge the conferees, and I do so now, to lend their support to this recommendation and to cooperate in the future in any further proceedings between the United States and the Reserve Mining Company.

Thank you very much, and I would like to open this up for discussion by the conferees at this time.

Mr. Fride, representing the Reserve Mining Company, has signaled from the audience and has asked me if he would be permitted to ask some clarifying questions, and I think that that would certainly be in order.

You may proceed.

MR. EDWARD T. FRIDE

ATTORNEY AT LAW

DULUTH, MINNESOTA

MR. FRIDE: The request also was, Mr. Commissioner, to make a couple of comments in connection with your statement if I might be permitted to do so.

MR. DOMINICK: Do you have questions with respect to the proceedings here?

MR. FRIDE: I beg your pardon, sir?

MR. DOMINICK: Do you have questions with respect to the proceedings here?

MR. FRIDE: Well, perhaps, may I first of all ask some questions concerning the statement that the Commissioner has made, and I -- I do believe that since it relates to Reserve Mining Company that perhaps common justice might dictate an opportunity to at least raise some questions with respect to it for whatever informational value it might have to the conferees in the course of their deliberation.

MR. DOMINICK: You may proceed.

MR. FRIDE: Thank you, sir.

The Technical Committee duly appointed by this conference last January 15 has had a report submitted to this conference. They came up with an analysis and some conclusions and recommendations. They said, and I quote, "If the method proposed by the discharger is found to be unacceptable, appropriate additional guidance is furnished the discharger for use in making the proper corrections prior to resubmission. The Lake Superior Technical Committee feels that the same consideration should apply to the Reserve Mining Company method of disposal." The conclusions of that Technical Committee include, "It is the responsibility of the appropriate regulatory agencies to provide guidance to the discharger, in this case Reserve Mining Company, as to the acceptability of a method of disposal, and if unacceptable, to provide guidance as to the modifications necessary to become acceptable."

It is clear from the record of this conference that the Minnesota Pollution Control Agency desires to negotiate in good faith with Reserve Mining Company, subject to the continuing surveillance and jurisdiction of the Minnesota Court, to find a solution to the problem. It is also apparent from the staff report that was submitted to this conference by a representative of the Minnesota Pollution Control Agency staff, and I quote, "The company has begun research on possible recirculation and reuse of the process water. Reserve should be requested to report on their findings and also provide more detailed information on the many aspects of the proposal, which are, as yet, insufficiently defined to permit detailed evaluation." Now, that coupled with the Technical Committee report, I think evidence a technical desirability to try to provide guidance, to try to provide criteria to Reserve as to any possible modifications of the plan which was presented, which will make it technically and economically feasible and conservationally sound. Reserve has and continues to be willing to fully cooperate with all appropriate regulatory agencies.

The record of this conference is replete with evidence of the substantial effort and the competent engineering and scientific studies that have been brought to focus on this subject. Reserve continues to be willing to try to resolve this matter. Just this morning, on a few minutes' notice, we arranged for an inspection of Reserve's operation by a Federal scientist, apparently called in by the Commissioner.

I suggest with all due deference that the conferees may be abdicating their responsibilities if they fail to provide Reserve with the guidance and criteria to make this plan acceptable as recommended by the Technical Committee.

I suggest further that if the Commissioner's recommendation is followed, this conference has taken a giant step backwards.

I suggest that the Minnesota Court has already spent many, many hours, days and weeks considering this whole controversy; that it has had the benefit of scientific testimony from the Federal and State, the private sector and Reserve Mining Company; that it came up with some conclusions after all of that testimony that after some 15 years there was no evidence of any harm being occasioned by Reserve's discharge to any beneficial use of Lake Superior; and I suggest further that the Commissioner's statement just now apparently ignores those findings, because he apparently has reached some preconceived notion of a solution to this problem.

Make no mistake about it, if this recommendation is followed, it is not Reserve Mining Company that has forced this issue into lengthy Federal Court litigation. It will be the recommendation to invoke Section 10 (c) (5) of the Federal Water Pollution Control Act which will have that result.

Frankly, the concept, when we are this close -- last January I suggest there was a great deal of rapport on the technical level where this solution belongs, not in the political arena. There was a very close rapport I submit which could have resulted in a reasonable, conservationally sound, economical solution to this problem. I suggest that there is no reason why that same atmosphere cannot prevail today.

I think that it is clear that many people of good will desire a prompt solution. And I do suggest that the Commissioner apparently is also, in making this recommendation at this point in time, certainly not perhaps giving full consideration to the viewpoints of the several States and certainly not paying heed to the statement which Dr. Andersen, as Chairman of the Minnesota Pollution Control Agency, made at the outset of this proceeding -- to the effect that the agency of the State most closely connected with this discharge would like to have an opportunity to try to resolve this matter.

When and if this matter becomes a subject of the Federal Courts I believe, first of all, you are abdicating the usual conference proceedings, and secondly, Mr. Commissioner, I implore you and I implore the conferees to give this matter deep and serious consideration. I think the people of this State and the people of this Nation are owed an opportunity to fully explore technical, reasonable solutions before this matter is forced further into litigation. And I suggest further to you that insofar as litigation is concerned, we are much closer at this point in time to a legal conclusion from the Minnesota Supreme Court than would be the case if the recommendations were followed and there is another 6-month delay, another lengthy court trial at the District Court level with possible appeals. We are much closer to it right now, and I do suggest and request that you give this matter further consideration before submitting such a recommendation to the director of the -- to the director of the Agency.

MR. DOMINICK: Mr. Fride, thank you very much. We are always happy to have your comments.

I do not say that in any facetious manner. I respect Mr. Fride as a very able lawyer and a very able advocate.

I believe that we are all here with one thing in mind and that is to reach some early resolution to this problem.

These recommendations that I have formulated and announced are not in any way intended to protract these proceedings. Indeed just the opposite. They are intended to bring the parties together at the technical level, to bring to bear in a form provided for by the law the judgments of all concerned, and to attempt to reach a resolution to this most difficult environmental problem at the earliest possible time.

So I say once again, I appreciate your comments, Mr. Fride, and we are always ready to discuss and hopefully now to reach some final resolution between the Federal Government and the company that you very ably represent.

Are there points of discussion now from the conferees?

MR. MERRITT: Yes, Mr. Chairman, I am wondering if we may have an adjournment perhaps for lunch, so that we may have an opportunity to discuss these proposals and the statement that you have just made. It could be a short lunch, but I think we need some time to discuss this, Mr. Chairman, and go over your proposals. And we also have -- I am sure other conferees will have comments and additional proposals.

MR. FRANGOS: Well, we have a scheduling problem. We do have to return back to Madison. I am afraid that if we took an extended lunch hour, then we won't be finishing up in time. Not that I don't want to spend an evening in Duluth, but I prefer to wrap this up if we could.

MR. DOMINICK: Thank you, Mr. Frangos.

I would propose that we recess for 10 minutes and reconvene and attempt to reach some final resolution of this conference.

(Whereupon, a short recess was taken.)

## EXECUTIVE SESSION

### CONCLUSIONS AND RECOMMENDATIONS

MR. DOMINICK: Will the conference please come to order, people please take their seats.

I would like to hear first from the conferee from Michigan.

MR. FROST: May I pass at this time to Mr. Frangos?

MR. DOMINICK: Certainly. The conferee from Michigan wishes to defer to the conferee from Wisconsin.

The conferee from Wisconsin.

MR. FRANGOS: Mr. Chairman, I have a comment to make, and then I have a number of questions about your statement.

I will first start out by indicating that I am somewhat disappointed in the manner in which the Chair made this announcement. Certainly it is contrary to procedures and practices that we States have experienced in other conferences not only here in Superior but other waters subject to these conferences.

I note from your statement that you made your statement as the Acting Commissioner of the Water Quality Office. I can only assume that you are also making this statement in your role as Chairman of this conference. I think it is regrettable that we have not had an opportunity to discuss what has transpired here for the last two days and given an opportunity to evaluate the situation among all the conferees. I can only gather from the statement that you have indeed reached this conclusion, and therefore the comments of the States or of the other conferees as to whether this ought to be the proper course of action may be moot at this point, and the choice that is left to us is to either support or not support your recommendation.

I would like to remind you that in the past, and I believe the statute does require that the conferees do submit recommendations jointly if possible to the Administrator for his disposition.

I would also like to comment on your remarks as to what the Wisconsin statement was with respect to Reserve Mining. And I think you stated it correctly that the State of Wisconsin in open session declared its desire that the Federal Government take direct action in the event that rapid resolution cannot be obtained through the existing conference mechanism. And I would submit that this mechanism was not permitted to be fully operative before you reached your judgment on the recommendation.

Now, having said that, I don't mean to be in the position of saying that I disagree with your judgment and proposed recommendation that you intend to make, but rather my comments go to the question of the manner in which this was handled at these proceedings. Because the State of Wisconsin and the other conferees, as well as the Federal Agency--and I'll remind you, sir, this is a Federal proceeding; this is a conference that was called by the Federal Government; it is a conference in which the Federal Government has made considerable investment, investment of resources of your technical staff here in Duluth; the States have also participated, so that we have a significant investment of resources in this procedure. And I am not convinced at this point in time without further discussion that we ought to at this point abandon what has been done to date. Again, I recognize there has been imparience; we have been impatient, but this has been a difficult technical problem to solve. And apparently you recognize that, sir, because part and parcel of your recommendation is further technical evaluation.

So again, I'll just conclude my comments by not necessarily differing with your conclusion but, again, if you have made this kind of a commitment in terms of resources, I think we ought to at least spend some time reviewing what has been done here, what are the alternatives before the conferees if indeed we are to pursue the conference procedure as provided by the Federal statute. Or perhaps I think it might be helpful to discuss some other alternatives other than the 180-day-notice procedure.

That concludes my comment, but I do have several questions. One, I would like to have if you could, Mr. Chairman, spell out in some detail how the 180-day-notice procedure operates, what kind of a time schedule you would anticipate or could estimate that these procedures would take, how much time would it take? Additionally, would this be a de novo proceeding? Are we going to have to build a new record? I remind you of the time that was spent in the Minnesota District Court.

I would also appreciate any additional comments that you might have of how this would indeed shorten the period for effective action. For example, if the conferees were to make some recommendation through the conference procedures, would this take more time than the 180-day-notice procedures that you have suggested? Can we not here today set requirements that you would set through negotiations?

That's several of the questions that I have, and I would appreciate and expression from you that would clarify that for the Wisconsin conferee.

MR. DOMINICK: Thank you very much, Mr. Frangos, for a very thoughtful statement.

## CONCLUSIONS AND RECOMMENDATIONS

Let me respond to some of your earlier statements and then I will attempt to address some of the questions that you have raised.

First of all, I want to make it abundantly clear to all concerned that the proposal that I have put forward here was reached after most careful deliberation and an evaluation of all of the events that have transpired up until the present day; a most careful evaluation of the testimony that was presented to the conference yesterday to the relative positions of the parties to this conference, the conferees; the relative position of the party that we are most concerned about here, the Reserve Mining Company; and having reviewed the almost now 2-year history of this conference, I came to the conclusions which I have announced.

I think it appropriate also to indicate that this course of action which I will be suggesting to the Administrator of the Environmental Protection Agency in no way detracts from the very substantial, very competent, very diligent effort that has been put into this entire problem by the conferees, by the various dischargers that have been subject to the conference and by the Reserve Mining Company. All of the material that has been brought to light, all of the scientific investigations that have been conducted and reported on to this conference, all of the testimony, the transcripts, the summaries, the recommendations, will be available and will be most fruitfully used as we attempt to achieve some rapid resolution to the problem through the mechanism that I have suggested here. So there is no intimation whatsoever that the work and the effort and the energy and the dedication that has been displayed in these proceedings will be for naught. Indeed, it is because of the work, the investigations, the studies and other things that have been the subject of this conference that we are able to proceed I think in the very near future to reaching a resolution of this case.

As to the working of the 180-day-notice procedure, the Federal law spells out that where there is a violation of duly established Federal-State water quality standards, the Administrator of the Environmental Protection Agency may issue notice of such alleged violation and may then enter into informal abatement proceedings directly with the party to whom such notice was issued. The principal feature of this provision of the law is that we may have direct access to a negotiating ability with the party to whom the notice has been issued, if at the end of a time period specified in the statute of 180 days, the parties, the Federal Government and the discharger, are unable to come to an agreement as to what constitutes a satisfactory abatement plan, and if there is no evidence available to the Administrator of the Environmental Protection Agency that the abatement of pollution will be forthcoming in a speedy and good faith manner, the statute provides that the Administrator of the Environmental Protection Agency may seek redress directly to the Federal Courts. That I think explains the 180-day-notice procedure and explains why I feel this will be a most constructive and forward-looking step at this time.

Were there other questions that you had?

MR. FRANGOS: Yes. On that point, perhaps a little bit more explanation. You talk about negotiations. Are those -- is that a public proceeding, Mr. Dominick? Is there a hearing involved in that negotiation activity?

MR. DOMINICK: There are informal abatement hearings involved which are spelled out by regulation, and these abatement hearings are held in public. They will be held in the near future if the Administrator approves the recommendations which I have announced here today.

MR. FRANGOS: But these are proceedings between the Federal Agency and Reserve Mining in this instance?

MR. DOMINICK: That is correct.

MR. FRANGOS: What is the State role in these as provided by regulation or your past practices?

MR. DOMINICK: The State, and in this case all three of the States because we are dealing with a matter of interstate pollution, will be advised of these proceedings and will be invited to attend as interested parties, and we will very urgently solicit the views of the State agencies and attempt to accommodate those views as we proceed to find an equitable settlement.

MR. FRANGOS: The determination though is then and the final decision then, is that made by the Administrator of the Environmental Protection Agency and the discharger?

MR. DOMINICK: That is correct.

MR. FRANGOS: It differs somewhat from this procedure that we have at the conference?

MR. DOMINICK: That is correct.

MR. FRANGOS: Now, let me ask you then in the alternative, if this conference today were to follow up on the recommendations of the Technical Committee and make those specific recommendations as they relate to Reserve Mining to the Administrator, would there be any advantage in terms of time being saved?

MR. DOMINICK: I believe that we are weighing the alternative of using the conference mechanism with all of the notice proceedings, notice requirements, the requirement to get all of the parties together, the requirement to issue transcripts, summaries and the like -- weighing that against a more speedy process by which the Federal Government may begin moving directly with the discharger, and in the event that agreement is not reached moving into the Federal Courts.

MR. FRANGOS: Again I am looking at the role of the States in having some impact on the requirement for discharge. And I take it the procedure that you have recommended is that we have nothing coming out of this conference that might be helpful to arriving at some requirement on the company. You are suggesting that this is really an open question and that you will be helped in reaching your position and the issue of how you are going to negotiate with assistance of the record that we have here and more specifically with another consultant, so that I have to be a little bit concerned about the -- about the impact of this conference on your final decision making. In other words, the States are now out of this.

MR. DOMINICK: The State of Minnesota will be asked to participate as an interested party, and give their views, as well as the views of your own State. And you certainly have a direct interest in this by virtue of the finding of the conferees that there has been a showing of interstate pollution. Your views will be not only welcome but taken into a very serious consideration.

MR. FRANGOS: Then I have a next question. What do you see then as the role of the conference and particularly as it relates to the Reserve Mining Company situation? Would this be an ad hoc legal action that would set the requirements and then you would bring this back to the conference for monitoring or how would that operate?

MR. DOMINICK: I would not want to --

MR. FRANGOS: Where would we be 180 days from now?

MR. DOMINICK: I would not want to predict the future role of the conference with respect to this particular discharge. I think the conference has been most valuable in addressing the overall pollution problems of Lake Superior. The reports of the States have been most valuable, and we have been able to achieve very substantial compliance with good deadlines with respect to the many dischargers to Lake Superior. That role of the conference would continue and we would look forward to additional activity of the conference if it is warranted for these additional dischargers.

MR. FRANGOS: Well, I would suggest that perhaps the other conferees might want to give serious consideration to developing recommendations on Reserve Mining for consideration by the Administrator as provided under the statutes for operating this conference, but beyond that, then I have my next question, which I think relates to our basic position of Federal enforcement. What advantages do you see in proceeding under the 180-day notice as opposed to asking the Corps of Engineers to exercise its authority under the 1899 Refuse Act and other licensing authority that the Corps has?

MR. DOMINICK: That is a very pertinent question, Mr. Frangos.

I am looking for a letter here which I will read to the conferees.

This is a letter from William D. Ruckelshaus, the Administrator of the Environmental Protection Agency, to Stanley R. Rezor, the Secretary of the Army, dated April 21, 1971.

"Dear Mr. Secretary:

"The Lake Superior Conference is being reconvened on April 22, 1971 for the purpose of considering alternative plans for deposition of the waste being discharged into Lake Superior by the Reserve Mining Company. In view of this circumstance in considering the impact of the recently published permit regulations, it is requested that any application for a revalidation of the permit to said company be deferred pending issuance of the conference recommendations, and that in any event, this office be consulted before any final action on revalidation is taken.

"The continued cooperation of the Department of the Army in this matter is appreciated.

"Sincerely yours, William D. Ruckelshaus."

I think that we will be prepared to receive suggestions from the conferees with respect to the role that the Administrator of the Environmental Protection Agency will be taking in reviewing and passing judgment on any permits issued by the Corps of Engineers. As you note in my statement to the conferees, I indicated that additional resort to the River and Harbor Act or the so-called Refuse Act of 1899 is available to the Administrator of the Environmental Protection Agency, and I assure you that we intend to use all available enforcement mechanisms in this case.

MR. FRANGOS: Well, I understand that he has these -- of the Federal Government has at least these two remedies available to it, but why are you recommending using the 180-day-notice route rather than asking the Corps of Engineers to reopen the question of the permit that Reserve Mining now holds? I am just trying to find, you know, where we are going and what is indeed the most effective and expeditious way of reaching some resolution of the question.

MR. DOMINICK: I would welcome a recommendation from the conferees that the Administrator of the Environmental Protection Agency advise the Secretary of the Army that it is our desire that the present permit for the Reserve Mining Company be revoked at this time and that a temporary permit be issued, subject to such conditions as may be established by the Administrator of the Environmental Protection Agency. I think that you have to do this in a proper sequence, in a proper time, and I think that the development of conditions subject to any further permit should be one of the important considerations to be undertaken by the Administrator of the Environmental Protection Agency during this period of time that we have before us.

MR. FRANGOS: Well, again, I appreciate that, and I haven't reached the judgment of which way is the best way to go. But I get a little bit concerned that we don't create more confusion by getting into two more forums. As I understand it, the law is mandatory with respect to securing of the permit by the company under the Refuse Act section of the Federal statute, and in all events the company will have to receive that permit. It would seem to me if this has to be done, what is the need for another enforcement proceeding? We have had two already.

MR. DOMINICK: The further issuance of a permit, as I indicated, will be under the control and guidance of the Water Quality Office, the Environmental Protection Agency, as the permit program is developed as to control and guidance relating to water quality matters -- the permit program, as you know, is not yet under way -- I would not want to prejudge the operation of that program. I feel that we have an enforcement mechanism available to us right now to begin proceedings to reach a resolution in this case.

MR. FRANGOS: Well, I -- again I'm not sure what the time period is under this Corps of Engineers proceeding. Again I would hope we have got just one Federal Government here. But I am getting perhaps a feel that what you are suggesting is, Mr. Dominick, that under the 180-day proceeding, you get into Federal Court faster than any other way, is that correct?

MR. DOMINICK: We are not in a position yet of prejudging the situation at this time. I would say that it would be most inappropriate for us to make any threats or innuendos with respect to the use of Federal Court proceedings. The statute is clear, however, that you are able to proceed to Federal Court in the event that you do not reach a satisfactory agreement with the discharger that has been served with a 180-day notice.

MR. FRANGOS: Then you think that you can get into this position more rapidly through the 180-day proceeding than you could through the Corps of Engineers proceeding?

MR. DOMINICK: That is my best judgment at the present time.

MR. FRANGOS: Thank you very much. That has been helpful.

MR. DOMINICK: The State of Michigan.

MR. FROST: Mr. Chairman, I do have certain reservations. I expressed our position yesterday of course.

Michigan has always been proud of its action in controlling pollution within its own borders. It has been proud of Minnesota actions in the past. We recognize Minnesota's primary responsibility in this area, and as I stated yesterday we would encourage Minnesota in any action that you take to resolve the matter with Reserve Mining.

## CONCLUSIONS AND RECOMMENDATIONS

I am not sure at this time that I know exactly what Minnesota's position is. However, if a situation does exist where effective action would be delayed unreasonably, Michigan would support the Federal conferees in steps designed to aid Minnesota to bring about an early solution to this problem.

MR. DOMINICK: Thank you very much.

State of Minnesota.

MR. MERRITT: Thank you, Mr. Chairman. I would like to say at the outset that it seems to me instead of taking a giant step backwards, as suggested by Mr. Fride, that we are on the threshhold here today of taking a giant step forward. And I think that the statement that Commissioner Dominick has presented is really indeed a historic one in several respects, and I say that after having been through 6 of these sessions now. And I think that if we can agree today on some additional requests and points that I am going to move by way of motion in a few minutes, in addition to what Commissioner Dominick has suggested the position of the Administrator will be, that we will take that giant step forward.

I would like to first of all ask several questions if I may, briefly, about the statement, Mr. Chairman, that you have very ably prepared and delivered here.

First of all, on Page 3, in reference to the 180-day—notice procedure, I am wondering whether the State of Minnesota will be a party or have some kind of equal status in the deliberations that will ensue in connection with any plans that are presented by Reserve Mining Company and the right to agree or reject those plans at such conference -- or I should say 180-day—notice meetings?

## CONCLUSIONS AND RECOMMENDATIONS

MR. DOMINICK: We will keep the State of Minnesota fully apprised of all information and plans submitted by the discharger. We will welcome the participation on the part of the State of Minnesota and other States at an informal abatement proceeding, and we will take your suggestions and comments into very careful consideration.

MR. MERRITT: I think that would be acceptable, but I think because this company, Reserve Mining Company, is within the State of Minnesota that, for example, if we would have strong objection to some kind of abatement program that meets with the Federal Government approval and the Reserve Mining's approval, or if there is a difference, that we ought to be given full consideration in these deliberations. I am wondering just exactly what our status would be. If you can give us any clarification on that, I would appreciate it, Mr. Dominick.

MR. DOMINICK: Any position that the State of Minnesota wishes to take with respect to the deliberations of the informal abatement proceedings, of course, would be welcomed and could be made in any way that the State of Minnesota wishes to make them.

MR. MERRITT: All right, sir.

Now, going to the last page of your report in connection with the intention of the Environmental Protection Agency to engage an independent consulting firm, and I think this is historic because it has never been done before to my understanding, I am wondering if there would be a time limit that we could expect? For example, first of all, will we have any idea when we leave here today when the Administrator Mr. Ruckelshaus will sign the Summary and Conclusions of this conference? I think you know in the past that we have waited on occasion for many, many months for previous Secretaries of the Interior to sign the

Conclusions. I am just wondering if there is any way we could pin this down, first of all, as to when the Administrator would sign the Conclusions that we arrive at here today?

MR. DOMINICK: Well, you have my commitment that we will expedite the signing of Summaries and Recommendations pursuant to this conference to the greatest degree possible. We will be expediting the issuance of the transcript to the greatest degree possible. Mr. Stein has responsibility for that, and I am sure, Murray, that you will move that along as rapidly as possible. We can assure you that the Summary and Recommendations will be presented to the Administrator in the shortest possible time. I would not want to set a date on it, but we can certainly expect to have something within the next several months.

MR. MERRITT: Well, if I might follow that up, Mr. Dominick. We still do not, to my knowledge, have the transcript from the January Session of this conference. Now, I am concerned about this. I wonder whether it is necessary to wait for the full transcript in order to sign those Conclusions and Recommendations? I just don't see why we couldn't go forward much sooner than that. And, furthermore, with respect to transcripts, as a lawyer I have found that it is difficult to prepare transcripts. And I think that we ought to commend the fine job that the transcript company has done -- the reporting service -- in the past. And I don't mean to cast any aspersions at them, because I think they have acted in an expedient -- have tried to expedite this, but we might have to wait 3 - 4 months for the transcript. And I don't think we would have to do that in order to have the Administrator sign the Recommendations that we make today. Because, after all, we could prepare a transcript from today's proceedings within a week, I am sure, and have those to Mr. Ruckelshaus immediately thereafter.

MR. DOMINICK: As you know, Mr. Merritt, the transcript for the January Session is available for your review. I think that has been pointed out to you before. In the event that you want a separate transcript, it would have to be purchased from the reporting agency.

MR. MERRITT: When was the first available? That is the first time I've heard about it, Mr. Commissioner.

MR. STEIN: We send out printed copy of the transcript to the Government Printing Office and its affiliates. That takes some time, and we don't have any control over it. But the transcript itself is available within weeks after we hold the conference -- and a copy goes to the Region. We have also made announcements at every conference that the transcripts in all, or part are available by arrangements that the State might want to make with the reporter to get its own copy. But as soon as they come to us, those transcripts are available at our office. We have often loaned them to the States for their perusal. However, the States can obtain as many copies as they wish -- not only the State, but anyone else just by making the arrangement with the reporter. The reporter is contracted and independent. In his opening remarks Mr. Dominick indicated that to be the case, as we have also announced at other conferences.

MR. MERRITT: Well then, Mr. Stein, is it fair to conclude then that we will have a transcript available, or that at least the Environmental Protection Agency will have one in a matter of 2 or 3 weeks? I think that would answer my concern if we could have some assurance that we are not going to wait several months here.

MR. STEIN: I think we will have to direct that question to the reporter. This is the first time we have had this firm's reporting service. When do you expect delivery?

REPORTER: In about 10 days.

MR. STEIN: All right. That is your answer.

MR. MERRITT: All right then, Mr. Chairman, if --

MR. FRANGOS: Mr. Merritt, could I just interject here?

MR. MERRITT: Yes.

MR. FRANGOS: I am not sure that we may not be missing the point. And as I understand it, no transcript or indeed no action by this conference is required for Mr. Dominick to exercise the authority for invoking the 180-day session. In fact, he could have done it from Washington or could have done it 2 years ago.

MR. MERRITT: That is right.

MR. FRANGOS: So I agree, a transcript is helpful, but I don't see that as any -- certainly any deterrent for some other form of Federal action. I don't want to speak for Mr. Dominick -- I guess I am -- but the law is quite clear.

MR. MERRITT: Mr. Chairman and Mr. Frangos, I agree. And I think that my initial concern here with respect to Mr. Ruckelshaus signing the Summary and Conclusions has been resolved, but I am also concerned about the time limit on engaging the independent consulting firm, and secondly, how soon we would expect a report back. It seems to me that this firm, based on all of the studies that we have presented here, including Trygve Hoff, Bechtel, and the Northern Environmental Council report yesterday, based on those studies and others available, that this independent consulting firm of professional experts could have that study completed within 3 months after the Administrator signs the Summary and

Conclusions of this conference report. Would that be unreasonable, Mr. Chairman?

MR. DOMINICK: Mr. Merritt, the firm is now preparing a scope of work to define the limits and the extent of the studies that it will undertake. We anticipate that scope of work will be completed within the next several weeks. I would anticipate the time frame that you have set out of approximately 3 months for the general review and study of this situation is a realistic time frame.

MR. MERRITT: Thank you very much, Mr. Chairman, That completes the questions I have.

I now have a 3-point program or motion which I would like to offer at this time if I may.

By majority vote of the Minnesota conferees present here at the conference, we make the following motion:

1. The evidence presented at this current session of the conference indicates the technical, economic and environmental feasibility of on-land disposal as an alternative to further dumping of taconite tailings by Reserve Mining Company into Lake Superior.

2. The conferees hereby go on record as favoring prevention of further deposition of tailings in Lake Superior by the Reserve Mining Company.

3. The conference recommends that the Administrator Mr. Ruckelshaus of the Environmental Protection Agency of the United States Government, take immediate steps to revoke the Federal permit issued to Reserve Mining Company and grant Reserve simultaneously a conditional permit subject to conditions established by the Administrator, the Environmental Protection Agency.

CONCLUSIONS AND RECOMMENDATIONS

I think I should add there that the Administrator advise the Corps of Engineers to take immediate steps to revoke the Federal permit. I believe that you referred or alluded to that, as a matter of fact, Mr. Chairman, just a few minutes ago.

Those are the 3 points. If we had more time, I would have these typed and Xeroxed, but I have them here and I could read them again if any conferee would like to do so, and I would make the motion then that this 3-point program be adopted by the conference now.

MR. DOMINICK: Would you please read your 3 points again slowly?

MR. MERRITT: Yes, I certainly will.

1. The evidence presented at this current session of the Lake Superior Enforcement Conference indicates the technical, economic and environmental feasibility of on-land disposal as an alternative to further dumping of taconite tailings by Reserve Mining Company into Lake Superior.

Would you like me to read the other 2?

MR. DOMINICK: Would you read the 2d one?

MR. MERRITT: Yes.

2. The conferees hereby go on record as favoring prevention of further deposition of tailings into Lake Superior by the Reserve Mining Company.

MR. DOMINICK: And the 3d.

MR. MERRITT: 3. The conference recommends that the Administrator of the Environmental Protection Agency advise the U. S. Army Corps of Engineers to take immediate steps to revoke the Federal permit issued to Reserve Mining Company and grant Reserve simultaneously a conditional permit subject to conditions established by the Administrator, Environmental Protection Agency.

MR. DOMINICK: I think with respect to the last proposal if we insert a couple of words, or one word there at two different places, "recommends." The Administrator may only recommend to the Secretary of the Army actions with respect to its permit. That should be clearly spelled out so that the conference is not under any misapprehensions on that score.

MR. MERRITT: So the change would then be, Mr. Chairman, "The conference recommends that the Administrator recommend to the Corps of Engineers," is that correct?

MR. DOMINICK: That is correct, and then one further place in your statement there, "...conditions as recommended by the Administrator of the Environmental Protection Agency."

MR. MERRITT: Instead of "established" as I have then --

MR. DOMINICK: That is right.

MR. MERRITT: "...subject to conditions recommended by the Administrator." Very good.

MR. DOMINICK: That is correct.

MR. MERRITT: I accept those changes.

MR. DOMINICK: Now, if I might comment on your first proposal. I frankly do not believe that we are in a position as conferees to prejudge the technical, economic and environmental feasibility of any particular on-land disposal method. As you will recall, the Technical Committee which was assigned this responsibility by the conference found that the proposals put forward to that Committee in the past were insufficient in terms of their substance to give that Technical Committee the ability to make appropriate judgments. I think it would be inopportune for us to attempt to prejudge this situation at this particular time.

## CONCLUSIONS AND RECOMMENDATIONS

MR. FRANGOS: Mr. Chairman, if I might comment, that hardly sounds like a giant step forward.

MR. MERRITT: We haven't taken a --

MR. FRANGOS: It seems to me we do have a Technical Committee report here that tells us a few things, and one of the things that I understand it to say is that taconite tailings should not be discharged to the lake. Additionally, it suggests that this conference ought to be in a position to develop and recommend some performance criteria to the company, and that the company ought to be in a position to respond to that performance requirement in the same manner that all of the other dischargers respond to performance requirements, and that is what Page 6 says. And so, therefore, I would say that perhaps the problem that we have, the difficulty that we have is not so much from the conference mechanisms but in the manner in which these mechanisms have been used. And so, therefore, I would support Mr. Merritt's position respecting performance requirements that this conference should be able to put in a recommendation form to forward on to the Administrator.

MR. DOMINICK: Very well, Mr. Frangos. I am in substantial agreement with what you have just said. I believe that this conference would be in a position to make recommendations to the Administrator on the types of performance that we would seek to achieve for this particular discharge. I would like to read at this time some tentative criteria for performance which I think cannot be worked out in final form at this stage of the game, but certainly would be susceptible to suggestion to the Administrator by this conference. I would read these tentative criteria for the Reserve Mining Company discharge.

# PROPOSED CRITERIA FOR RESERVE MINING COMPANY DISCHARGE

1. Any discharge associated with the treatment system, including that from possible land disposal methods, must be such that green water is eliminated. This means 1 mg/l or less of suspended solids in the discharge based on current loadings.

2. Any discharge must meet non-degradation provisions of State and Federal water quality standards.

3. Any chemical additives to the treatment system must not be discharged to Lake Superior. Any disposal system approved must be able to accommodate probable process changes including the addition of chemicals. No new chemicals are to be added in the future without specific approval of Minnesota Water Pollution Control Agency and the Environmental Protection Agency.

4. There must be a maximum recycling of process water.

5. Any disposal system must reduce the discharge of dissolved solids to the Lake to the maximum extent possible. If such reduced discharges are having adverse effects on the Lake water quality, the Minnesota Water Pollution Control Agency or the Environmental Protection Agency will require further reduction.

6. Any disposal system must reduce suspended solids such that coliform standards would not be violated. This means no more than 0.5 mg/l of suspended solids in discharge based on current loadings.

7. Construction of the system must be completed and placed in operation by November 23, 1973.

CONCLUSIONS AND RECOMMENDATIONS

I put these forward as tentative criteria to be used in future deliberations and invite your comment on them.

MR. MERRITT: Mr. Chairman, may we have those repeated, or do you have a copy that you might distribute of those proposed criteria?

MR. DOMINICK: I do not have a copy to distribute, Mr. Merritt, but I'd be happy to read them.

MR. MERRITT: Thank you.

(Whereupon the Chairman repeated the 7 proposed criteria.)

MR. FRANGOS: Mr. Chairman, those have come at us pretty quick for evaluation. But it does seem to me that that is -- again without commenting on the validity of the numbers that you have just recited -- but that certainly seems to me responsive to Recommendation No. 2 of the Technical Committee, which says, "Reserve Mining Company be provided with the appropriate criteria upon which an acceptable method of disposal can be designed." I think it would have been helpful if we had that kind of information before us. And certainly it seems to me that if these were the recommendations, these criteria could be approved by the Administrator with dispatch. Therefore, following that up, we could set a timetable to get a response from the company, a commitment whether they will go along and follow these criteria. And if indeed we could get that in a 90-day period, I think we are well on the road. And then that gets me back to the question what is the advantage of the 180-day procedure?

MR. DOMINICK: Mr. Frangos, I agree with much of what you have said. I think that the 180-day-notice procedure will utilize criteria. I think these criteria need to be very thoroughly evaluated, and we would hope that you would make an evaluation jointly with us on them. I think they could be proposed as tentative criteria to the Administrator at this time. Once they are established, they would be presented at the earliest proceeding under the 180-day-notice provisions of the Act; namely, as soon as the informal abatement hearing is scheduled. These criteria will be the basis for discussion at that hearing. In addition, I would think that it would be most practical to address these criteria immediately after the Administrator makes his decision on this matter to the Reserve Mining Company, so that they might start working in the direction that we have indicated.

MR. FRANGOS: Again, I think it would seem to me though that there might be some advantages if the conference procedure were followed and if we could agree upon a recommendation for a criteria and include in that that the tailings would not be discharged to the lake. Now, I don't see that in your proposal. That question is open as we go into that 180-day-notice proceeding.

MR. DOMINICK: Yes, Mr. Merritt.

MR. MERRITT: Mr. Chairman, I agree with the comments by Mr. Frangos, and I am very concerned at the omission of the language that I proposed in the motion. And I think that starting with No. 4, Mr. Chairman, there is a conflict between these criteria and the 3-point program, especially points 1 and 2 of the motion which I have offered here today. Now, I also am concerned very much that we proposed tentative criteria which do not contain any turbidity standard whatsoever, no requirement for prior certification by the State of Minnesota, which is now the situation, and I am just concerned that we come up with criteria here which are incomplete at this time and would serve, as I understand your proposal, at least as tentative criteria for the 180-day-notice procedure. By the way, I do agree with Mr. Frangos that there would be a problem of where the conference stands on this if we did follow it up, such criteria. So with those comments, I think there is the basic conflict there with the motion that I have made.

MR. DOMINICK: Well, let's try to unravel some of this for the conferees. Time is running on here.

I think, Mr. Merritt, as to the proposed criteria, I would make the following suggestion. I would suggest that we have these typed up in final form and mailed immediately to all of the State conferees and that you respond to the Conference Chairman with respect to the adequacy of these criteria at your earliest opportunity. Having polled the conferees we will then present your findings to the Administrator as to your specific recommendations with respect to these criteria. Is that acceptable to you?

MR. MERRITT: Well, I think, Mr. Chairman, if we can agree on this -- on points 1 and 2 in the motion that I make -- that that would be acceptable to the State of Minnesota. I think we can agree, and I would hope that we could come to an agreement on this motion.

MR. DOMINICK: These criteria that I have suggested here are ading to the same objectives that I think you are attempting to set out in your motion. It is clear that the objective is to prevent the discharge of taconite tailings into Lake Superior. If you would like to restate your motions, we should perhaps consider those and then proceed with the criteria as I have suggested.

MR. MERRITT: Very good, Mr. Chairman.

At this time I will read the three points once more and renew my motion that they be adopted.

## CONCLUSIONS AND RECOMMENDATIONS

1. The evidence presented at this current session of the Lake Superior Enforcement Conference indicates the technical, economic and environmental feasibility of on-land disposal as an alternative to further dumping of taconite by Reserve Mining Company into Lake Superior.

2. The conferees hereby go on record as favoring prevention of further deposition of tailings into Lake Superior by the Reserve Mining Company.

3. The conference recommends that the Administrator, Environmental Protection Agency, recommend to the Corps of Engineers that it take immediate steps to revoke the Federal permit issued to Reserve Mining Company and grant Reserve simultaneously a conditional permit subject to conditions recommended by the Administrator, Environmental Protection Agency.

That completes my motion.

MR. DOMINICK: Any questions or comments on that motion?

MR. STEIN: There was a comment and I would like some clarification on that. I know Mr. Frangos indicated that the Technical Committee said there was not to be taconite tailings put into the lake. I wonder where it is in the Committee report? I have a hard time finding that. As far as I can see, I think it is very easy to talk about taking a giant step forward. I wish that by adjusting a report or something like that we would be in a position to take that giant step forward. I would like to see it. But I didn't see that in the Technical Committee report. I think that one of the judgments Mr. Dominick made -- and let me put this out -- is to get the consultant to evaluate this. If you came to the conclusion that on-land disposal was technically and economically feasible, then I think the conferees are in a position to set a deadline for Reserve and get on with the job.

Now, I think you have a fundamental problem here that has to be resolved on the basis of the evidence presented to the conference.

MR. FRANGOS: Well, Mr. Chairman, Mr. Stein, that is correct. I may have misspoken when I said that this was a direct quote or a verbatim conclusion of the Committee report. It indeed is not, as it relates to the discharge of tailings into the lake. What I meant to say -- and I stand corrected -- it seems to me that the sense of the conferees after evaluating all of the data, including the Technical Committee personnel, was that this is the prudent course to take.

Again, if I can just get back to this 180-day business, I just get concerned that once you get into another legal forum that this may indeed be dilatory over the long haul because even the threat or the opportunity for getting into Federal Court doesn't necessarily mean that you are speeding the day that you are going to get remedial facilities at that installation.

MR. DOMINICK: Any further discussion?

MR. FROST: Mr. Chairman, could we go back to these criteria for just a moment? I think I have something.

MR. DOMINICK: Yes.

MR. FROST: No. 1 is, as I understand it, to eliminate green water we would require "...1mg/l or less of suspended solids?"

MR. DOMINICK: Yes.

MR. FROST: And then the last -- last criteria was "...0.5 mg/l of suspended solids." I am mixed up here.

MR. DOMINICK: That is to meet the coliform standards.

MR. FROST: The coliform standards?

MR. DOMINICK: "Any disposal system must reduce suspended solids such that coliform standards would not be violated." That means no more than 0.5 mg/l of suspended solids in the discharge based on current loadings.

Any further questions?

MR. FROST: I am still having trouble with that, Mr. Chairman, the ½ ppm of suspended solids as related to coliform. This isn't clear to me.

MR. DOMINICK: All right. I think our Technical staff should review this and we should present this to you in writing so that we can get down to the details on these proposed criteria. It is extremely difficult I recognize for you to have to evaluate these in their present form. We will present these to you just as rapidly as we can and then expect your response to them and those responses would be included in the recommendations to the Administrator.

Very well. I think we are in a position then to receive the recommendation of the State of Minnesota and to hear the views of the conferees on that recommendation.

Mr. Frangos, you have expressed your views.

The State of Michigan.

MR. FROST: Mr. Frangos had better not have expressed the State of Michigan views. Is that what you said?

Oh, I am sorry. Oh, I am sorry.

MR. FRANGOS: Don't get me in trouble.

## CONCLUSIONS AND RECOMMENDATIONS

MR. FROST: I will go back to my original statement -- that we would encourage Minnesota in any action it wants to take to resolve this matter. If this is the action that Minnesota desires to take Michigan will support them.

MR. DOMINICK: Mr. Merritt, with respect to your proposals I would address myself to those. I think they are excellent statements of intent, excellent statements of where we want to be. I would issue the caveat, however, from the Federal point of view, that I do not believe that we can state with certainty and can prejudge with certainty at this point what the precise economic, technical or environmental feasibility of any given proposal is. However, I endorse the intent of your proposals and am prepared to make them the unanimous recommendation to the Administrator of this conference and to proceed to propose criteria to the conferees and to receive your views on such criteria, in order to implement the general recommendations of the conferees.

I would look very carefully to the work that we have outlined here, the review in greater depth of proposals that have been put forward, the work of our independent consulting firm, and also look forward to reviewing in great detail the plans which we will be seeking from the Reserve Mining Company on its discharge to meet the criteria that we have discussed tentatively here.

Is there any comment or question on that point?

Very well.

MR. FRANGOS: Well, Mr. Chairman, I just have several questions.

I am not sure what we have done here or what you are going to do. But, as I see it, you will be making a recommendation and you have asked for our concurrence in invoking 180-day-notice proceeding. Beyond that, I think we have got some responsibilities that come out of this conference and relate to the conference procedures in what has happened here. And it has been at least the practice in the past to develop these recommendations for acceptance or adoption by the Administrator. Now, if the EPA is going to go 180-day notice and if we concur in this, then it seems to me that we ought not make firm recommendations on criteria or on specific recommendations but rather we ought to make some general recommendation for the Administrator's guidance in the event that he does decide to invoke the 180-day-notice mechanism. Because some of these numbers are rather hurriedly thrown before us, and we can't comment on those. And it appears perhaps that we may not be able to get a consensus, and perhaps we ought to just comment on the discussions and recommendations developed here and then have them for the Administrator's consideration if we do as a conference recommend that we go a different enforcement route. So that would be my suggestion -- that perhaps you might want to poll the conferees on your basic recommendation that you made to the conference.

MR. DOMINICK: What was your last --

MR. FRANGOS: Yes. What I am suggesting is that the conferees be polled as to whether they would recommend to the Administrator that he call 180-day-enforcement procedure against the Reserve Mining Company. And if we get a consensus on that, then I think we might be able to determine better what other action needs to be taken here today by the conference.

MR. DOMINICK: Very well. I would state though that the recommendation to the Administrator by myself, as the Acting Commissioner of the Water Quality Office, is an action which I have a responsibility to take irrespective of this conference. I think you pointed that out yourself -- that this jurisdiction does exist and this jurisdiction should be exercised. However, I would be happy to receive the sentiment of the conferees as to this course of action and would be happy to poll them at the present time. We'll start with the State of Minnesota.

MR. MERRITT: Well, Mr. Chairman, as I understood Mr. Frangos' comment -- that this would be a later poll not immediately. But if you ----

MR. FRANGOS: No.

MR. MERRITT: Did I misunderstand you, Mr. Frangos?

MR. FRANGOS: No. I think whether the conference -- well, first, Mr. Dominick has apparently now indicated his commitment to that recommendation and because of one of the hats that he wears. So if this indeed is what is going to happen, if that is going to be the recommendation, we don't know what Mr. Ruckelshaus will do for certain. But, nevertheless, if that is the action that will be taken, if we can anticipate that action, then I am not sure what value could be gained in spending time here in developing firm numbers and firm recommendations that would be conference recommendations to the Administrator. He is getting all of this anyway. So if indeed he is going to go forward or if -- I don't see how he could not go forward if the conferees all support the action that is suggested by Mr. Dominick. Then let's assume that that is what he is going to do, and if he is going to do that, then why should we be spending a lot of time here trying to pound out specific recommendations, but rather let's take this back with us. Let's look at the numbers that Mr. Dominick has suggested and offer our comments individually to the Administrator for his use at the notice proceedings -- the 180-day-notice proceedings.

MR. MERRITT: I agree with that procedure suggested by the State of Wisconsin.

MR. DOMINICK: Very good. Let's poll the conferees then at this time.

MR. MERRITT: Now, are we being polled as to both the 180-day notice, Mr. Chairman, and the procedure that we have just heard offered by the State of Wisconsin? I am not sure just what this poll encompasses.

MR. DOMINICK: Well, I think Mr. Frangos has suggested a procedure to be followed by the conferees. The first part of that procedure is to poll the conferees to secure from them their view as to their support of 180-day-notice proceeding.

MR. MERRITT: You are going to take this in two parts then, Mr. Chairman?

MR. DOMINICK: Right.

MR. MERRITT: The second part would be the criteria?

MR. DOMINICK: The --

MR. MERRITT: Vote separately then? The polling will be separate?

MR. DOMINICK: That is correct.

MR. MERRITT: May we have a few minutes for suggestions then, Mr. Chairman? I would ask for, oh, say 3 minutes.

MR. DOMINICK: With your conferees?

## CONCLUSIONS AND RECOMMENDATIONS

MR. MERRITT: Yes, with the three of us here from Minnesota, and that is the basis for my request.

MR. DOMINICK: Well, we have kept this audience an extremely long time. It is way past lunch time. I would like to have your view. I think you have expressed your view previously on this, and I think that this is the most expeditious way to go.

(Off the record discussion.)

MR. DOMINICK: Very fine. The State of Minnesota.

MR. MERRITT: The State of Minnesota votes aye.

MR. DOMINICK: State of Wisconsin.

MR. FRANGOS: The State of Wisconsin supports and concurs in the suggestion of Mr. Dominick. However, we do have some reservations. Those being primarily that the State of Wisconsin will no longer have a direct legal method for helping reach a solution, whatever that solution be. We also have some reservation that this indeed may be a dilatory process that may be stretched out further than if we had followed the conference proceedings. We will, also, of course, express our position to the Administrator with respect to the need for insuring that the tailings do not end up in the lake. So with that enthusiastic support, the State of Wisconsin is willing to support the EPA not only in calling this but we will participate to the fullest extent possible in those proceedings.

MR. DOMINICK: Thank you, very much, Mr. Frangos, for your enthusiasm. We look forward to working with you on this.

State of Michigan.

MR. FROST: With the same reservations as expressed by Mr. Frangos the State of Michigan votes aye.

MR. DOMINICK: Very well.

MR. MERRITT: Mr. Chairman.

MR. DOMINICK: Yes.

MR. MERRITT: I would like to make one comment at this point in light of the statements by Mr. Frangos, which were agreed upon by the representative of the State of Michigan. There isn't any question in our minds as Minnesota conferees that we have independent jurisdiction to take other remedies if and when they become necessary. If this somehow doesn't work, then we certainly would take those steps, whatever action would be necessary at that time. Like the number of other remedies that are available here, they are independent -- and they can still be taken in the future -- and with that comment I would like to make one further comment. Perhaps it would be appropriate at this time, Mr. Chairman.

In reference to your report, point No. 8, I would like to ask that that be deleted, because we, the Minnesota conferees, did offer the Minnesota position at this conference yesterday and today. Our position, as stated yesterday and the statement that I gave was:

1). That the appeal of Judge Eckman's decision to the Minnesota Supreme Court has been taken by unanimous vote of the agency on Monday of this week; that we will pursue that litigation through the Minnesota Supreme Court, at least.

2). That the Governor of Minnesota, Governor Wendell Anderson, has made a request of the U. S. Army Corps of Engineers.

3). Which was my request, and I want it clear that this was not the request of all of the Minnesota conferees but mine. That the conference endorse Governor Anderson's letter and go on record as supporting the request of the U. S. Army Corps of Engineers that it immediately revoke Reserve's permit and issue a conditional permit, as described in Governor Anderson's letter, dated March 3, 1971. And I won't repeat the conditions in there.

The action that we have taken today in the motion is somewhat different from that, but I wanted to state very clearly that we did have this position and that I did make this proposal on behalf of Governor Anderson to the conference, And if we could have that amendment, Mr. Chairman, to what was stated, I believe that would properly reflect the record, and I would have no objection to doing that.

MR. DOMINICK: Well, Mr. Merritt, I appreciate your views. Of course, your views will go on the record. The statement that I have made here perhaps might be clarified to some degree to the extent that I did not feel that we had yesterday a clear-cut position from the Minnesota Water Pollution Control Agency as an agency. As you will recall, we had quite a go-around on whether or not the agency was presenting a position here or any statements by the conferees represented that agency position. That merely is what I was trying to get at at that time. I think that should clarify that.

Now, as to the criteria, as I indicated -- and I think Mr. Frangos' suggestion is a good one -- we will tighten up these criteria and mail them to the conferees to receive your views. Then we will use these in the immediate future with respect to describing to the Reserve Mining Company the necessity to come in with a proposal which will be adequate to meet these criteria and adequate to prevent further pollution of Lake Superior.

## CONCLUSIONS AND RECOMMENDATIONS

I think with that, we will close this conference subject to the call of the Chairman, and express our deep appreciation to all of you who have participated and shown such patience and good faith in this entire endeavor.

Thank you.

(Whereupon the conference adjourned.)

* * * * * * * * * * * * * * * * * * *

TOUCHE ROSS & CO.

780 NORTH STAR CENTER
MINNEAPOLIS, MINNESOTA 55402

July 21, 1970

Minnesota Pollution Control Agency
Minneapolis, Minnesota

We have prepared the following schedules relating to Reserve Mining Company, using the assumptions stated on page 8.

| | | Page |
|---|---|---|
| 1. | Pro forma funds available for the three years ended December 31, 1969 (assuming taconite shipped was sold at published market prices) | 2 |
| 2. | Pro forma and forecasted funds available (assuming taconite shipped was sold at published market prices and pollution control facilities were installed) | 3 - 4 |
| 3. | Book profit, per Appellant's Exhibit 151, adjusted for costs associated with pollution control facilities and assumed Federal income taxes | 5 |
| 4. | Rates of return on funds provided by participants and on total assets excluding amounts due from participants | 6 |
| 5. | Estimated partial net outlays to close Reserve Mining Company's operations about December 31, 1971 | 7 |

We are not in a position to express an opinion as to the probability that the forecasted funds available will be generated.

The above listed schedules, including pro forma adjustments and rate of return calculations, have been prepared on the basis of numerous assumptions and cannot be completely accurate. They should be viewed as an orderly presentation of the information stated on the basis of the assumptions listed.

Touche Ross & Co.
Certified Public Accountants

## RESERVE MINING COMPANY

### PRO FORMA FUNDS AVAILABLE
### FOR THE THREE YEARS ENDED DECEMBER 31, 1969
### (assuming taconite shipped was sold at published market prices)

| | Year ended December 31 | | | 1967-1969 |
|---|---|---|---|---|
| | 1967 | 1968 | 1969 | average |
| | (amounts in thousands) | | | |
| Book profit after tax, per Appellant's Exhibit 151 entered as evidence by Reserve Mining Company | $14,718 | $14,544 | $17,476 | $15,580 |
| Add: | | | | |
| Provision for depreciation, depletion and amortization, reported in audited financial statements | 15,161 | 14,811 | 13,263 | 14,412 |
| Loss (gain) on disposals of property, reported in audited financial statements | ( 7) | 11 | 54 | 19 |
| | 29,872 | 29,366 | 30,793 | 30,011 |
| Deduct required sinking fund payments first mortgage bonds | 8,356 | 8,356 | 8,356 | 8,356 |
| Pro forma funds available(1) | $21,516 | $21,010 | $22,437 | $21,655 |
| Tons of ore shipped, per Appellant's Exhibit 151 | 9,443 | 9,517 | 10,649 | 9,870 |
| Pro forma funds available per ton of ore shipped | $2.28 | $2.21 | $2.11 | $2.19 |

(1) Does not include funds obtained from disposition of properties, funds obtained from repayment of principal on First Mortgage Notes Receivable, or funds invested in new facilities.

See assumptions on page 8.

## RESERVE MINING COMPANY

## PRO FORMA AND FORECASTED FUNDS AVAILABLE
(assuming taconite shipped was sold
at published market prices
and pollution control facilities were installed)

### PRO FORMA FUNDS AVAILABLE

| | Year ended December 31 | | | 1967-1969 |
|---|---|---|---|---|
| | 1967 | 1968 | 1969 | average |
| | (amounts in thousands) | | | |
| Adjusted book profit (see page 5), assuming straight-line depreciation for book and tax purposes | $ 4,779 | $ 5,440 | $ 8,448 | $ 6,223 |
| Add: | | | | |
| Provision for depreciation, depletion and amortization of leaseholds reported in audited financial statements | 15,161 | 14,811 | 13,263 | 14,412 |
| Provision for depreciation of pollution control facilities (See Appellant's Exhibit 67) | 2,972 | 2,972 | 2,972 | 2,972 |
| Loss (gain) on disposals of property reported in audited financial statements | (7) | 11 | 54 | 19 |
| | 22,905 | 23,234 | 24,737 | 23,626 |
| Deduct: | | | | |
| Required sinking fund payments on first mortgage bonds | 8,356 | 8,356 | 8,356 | 8,356 |
| Repayments on loan for purchase of pollution control facilities | 3,707 | 3,707 | 3,707 | 3,707 |
| | 12,063 | 12,063 | 12,063 | 12,063 |
| Pro forma funds available (1) | $10,842 | $11,171 | $12,674 | $11,563 |
| Pro forma funds available per ton of ore shipped | $1.15 | $1.17 | $1.19 | $1.17 |

(1) Does not include funds obtained from disposition of properties, funds obtained from repayment of principal on First Mortgage Notes Receivable, or funds invested in new facilities.

See assumptions on page 8.

## PRO FORMA FORECASTED FUNDS AVAILABLE

| | Years 1 to 5 inclusive, after installation | Years 6 to 20 inclusive, after installation |
|---|---|---|
| | (amounts in | thousands) |
| Pro forma average funds available per year, based on 1967-1969 average (See page 3) | $11,563 | $11,563 |
| Tax reduction (outlay) associated with rapid amortization of pollution control facilities | 1,625 | (534) |
| Pro forma forecasted funds available per year | $13,188 | $11,029 |
| Funds available per ton of ore shipped | $1.34 | $1.12 |
| Total pro forma forecasted funds available | $65,940 | $165,435 |

See assumptions on page 8.

## RESERVE MINING COMPANY

## BOOK PROFIT, PER APPELLANT'S EXHIBIT 151, ADJUSTED FOR COSTS ASSOCIATED WITH POLLUTION CONTROL FACILITIES AND ASSUMED FEDERAL INCOME TAXES

| | Year ended December 31 | | | 1967 - 1969 |
|---|---|---|---|---|
| | 1967 | 1968 | 1969 | average |
| | (amounts in thousands) | | | |
| Book profit, per Appellant's Exhibit 151 | $20,278 | $20,811 | $24,667 | $21,919 |
| Average annual costs associated with pollution control facilities reported as Proposal #2 | 12,490 | 12,490 | 12,490 | 12,490 |
| | 7,788 | 8,321 | 12,177 | 9,429 |
| Assumed federal income taxes | 3,009 | 2,881 | 3,729 | 3,206 |
| Adjusted book profit | $ 4,779 | $ 5,440 | $ 8,448 | $ 6,223 |
| Tons of ore shipped, per Appellant's Exhibit 151 | 9,443 | 9,517 | 10,649 | 9,870 |
| Adjusted book profit, per ton of ore shipped | $.51 | $.57 | $.79 | $.63 |
| Funds provided by participants (See page 6) | $38,607 | $31,372 | $24,946 | $31,642 |
| Adjusted rate of return on funds provided by participants | 12.4% | 17.3% | 33.9% | 19.7% |

See assumptions on page 8.

## RESERVE MINING COMPANY

## RATES OF RETURN ON FUNDS PROVIDED BY PARTICIPANTS AND ON TOTAL ASSETS EXCLUDING AMOUNTS DUE FROM PARTICIPANTS

| | Year ended December 31 | | | 1967 - 1969 |
|---|---|---|---|---|
| | 1967 | 1968 | 1969 | average |
| | (amounts in thousands) | | | |
| Return on funds provided by participants: | | | | |
| Funds provided by participants (1) | $ 56,058 | $ 56,058 | $ 56,058 | $ 56,058 |
| Less amount due from participants at end of year: | | | | |
| Included in current assets (1) | 16,792 | 18,369 | 23,219 | 19,460 |
| Included in investments and other assets (1) | 659 | 6,317 | 7,893 | 4,956 |
| | 17,451 | 24,686 | 31,112 | 24,416 |
| Net funds provided by participants | $ 38,607 | $ 31,372 | $ 24,946 | $ 31,642 |
| Book profit after tax, per Appellant's Exhibit 151 | $ 14,718 | $ 14,544 | $ 17,476 | $ 15,580 |
| Rate of return on funds provided by participants | 38.12% | 46.36% | 70.06% | 49.24% |
| Return on total assets excluding amounts due from participants: | | | | |
| Total assets (1) | $252,331 | $246,486 | $238,696 | $245,838 |
| Less amounts due from participants (See above) | 17,451 | 24,686 | 31,112 | 24,416 |
| Total assets excluding amounts due from participants | $234,880 | $221,800 | $207,584 | $221,422 |
| Book profit, after tax, per Appellant's Exhibit 151 | $ 14,718 | $ 14,544 | $ 17,476 | $ 15,580 |
| Rate of return on total assets excluding amounts due from participants | 6.27% | 6.56% | 8.42% | 7.04% |

(1) Reported in audited financial statements.

See assumptions on page 8.

## RESERVE MINING COMPANY

## ESTIMATED PARTIAL NET OUTLAYS TO CLOSE RESERVE MINING COMPANY'S OPERATIONS ABOUT DECEMBER 31, 1971

| DESCRIPTION | | Payments (receipts) (amounts in thousands) |
|---|---|---|
| First mortgage bonds - balance December 31, 1969 | $152,222 | |
| Less installments payable in 1970 and 1971 | 16,711 | $135,511 |
| 5-1/2% promissory notes of Silver Bay Housing Corporation, guaranteed by Reserve Mining Company and each of the participants: | | |
| Principal outstanding December 31, 1969 (no reduction in principal is assumed for 1970 or 1971) | 1,963 | |
| Less tax benefit | 942 | 1,021 |
| 3. Tax benefit arising from uncollectibility of First Mortgage Notes Receivable | | ( 4,611) |
| 4. Tax benefit arising from abandonment of property, plant and equipment | | ( 49,800) |
| Estimated partial net outlays required to close all facilities about December 31, 1971 | | $ 82,121 |

The above listing is not all inclusive in that it does not include benefits or outlays such as the following for which no estimates were available:

a. Shutdown costs

b. Pensions, relocation payments and severance pay for employees terminated or relocated

c. Realization from sale of properties

d. Benefits from moving equipment to other sites

See assumptions on page 8.

## RESERVE MINING COMPANY

## ASSUMPTIONS UNDERLYING SCHEDULES

1. Shipments of taconite pellets are assumed to be made at published market prices.

2. Costs and volume of production, and market price of ore shipped, are assumed to remain at the average levels attained during the three years ended December 31, 1969.

3. Expenditures for pollution control facilities, listed below, reported as Proposal #2 in Appellant's Exhibit No. 67 (Engineering Task Force Progress Report dated April 9, 1970), were used for purpose of the computations made in the preceding schedules.

| | |
|---|---|
| Capital costs | $74,132,000 |
| Average annual costs: | |
| Direct operating | $ 6,210,000 |
| Interest | 3,308,000 |
| Depreciation | 2,972,000 |

4. It is assumed that the full capital costs of $74,132,000 noted above would be borrowed and that such borrowings would be repaid in equal annual amounts over a 20 year period.

5. Pollution control facilities are assumed to have an average life of 20 years.

6. The assumed Federal income tax rates are as follows:

   a) 22% on the first $25,000 of taxable income
   b) 48% on all taxable income in excess of $25,000

   The percentage depletion rate for iron ore is assumed to be 15%.

7. The reports listed below relate to the three years ended December 31, 1969. Certain information has been extracted from these reports for use in the preceding schedules.

   a. Appellant's Exhibit 151, titled "Reserve Mining Company Return on Investment 1967-1969" introduced in July 1970 as evidence in District Court (State of Minnesota) proceeding in Two Harbors, Minnesota in connection with the Reserve Mining Company v. Pollution Control Agency, State of Minnesota action.

   b. "Audited Financial Statements ..., Reserve Mining Company, Silver Bay, Minnesota:

      December 31, 1969"
      December 31, 1968"

UNIVERSITY OF Minnesota

SCHOOL OF BUSINESS ADMINISTRATION
MINNEAPOLIS, MINNESOTA 55455

September 15, 1970

Mr. John P. Badalich
Minnesota Pollution Control Agency
Delaware Street S.E.
Minneapolis, Minnesota 55414

Dear John:

Attached is an edited version of my remarks to the "Conference in the Matter of Pollution of Lake Superior..." on August 12, 1970. The essence and order of the comment has not been changed. If this is not satisfactory, please let me know.

Sincerely,

Glen
R. G. Berryman, Chairman
Department of Accounting

RGB:sp

Enclosure

## Dr. Glenn Berryman

(The following is from the Conference in the Matter of Pollution of Lake Superior and its Tributary Basin in the States of Minnesota, Wisconsin, and Michigan, held in Duluth, Minnesota, August 12-13, 1970. This particular excerpt of the proceedings took place in the afternoon session of August 12:)

DR. GLENN BERRYMAN
of Touche Ross & Company
on leave from
the University of Minnesota

DR. BERRYMAN: Mr. Stein, conferees, ladies and gentlemen.

In Mid-July, 1970, the Pollution Control Agency, State of Minnesota, asked that I review some of the economic aspects of Reserve Mining's operation at Silver Bay, Minnesota, with particular emphasis on the economic aspects of adding pollution control facilities related to the tailings disposal program. I did make a limited review. Time did not permit a detailed review of all economic aspects.

A substantial number of documents were reviewed and a number of queries directed to corporate personnel. The documents included (1) Return on investment schedule prepared by Reserve Mining for 1967, 1968, and 1969.

(2) Engineering Task Force Report, previously alluded to by Mr. Badalich.

(3) Audited financial statements of Reserve Mining Company for the three years ended December 31, 1969.

(4) Various contracts between Reserve Mining, Armco Steel Corporation, and Republic Steel Corporation.

(5) Private ruling obtained by Reserve Mining from the Internal Revenue Service in connection with its basic operations.

(6) Revenue Ruling 56-542, issued in 1956 by the Internal Revenue Service, as a guide to certain types of companies, of which Reserve is one. The primary focus of queries directed to company officials related to the figures presented in their return on investment schedule. I reviewed underlying worksheets which they exhibited to me and also reviewed some of the documentary evidence the company has created or has obtained in connection with its regular operations.

My review of the previously noted documents and the responses that I received to my queries indicated that:

First, Reserve Mining is owned in equal parts by Armco Steel and Republic Steel.

Second, the level ofoperations of Reserve Mining is dictated by Armco and the Republic Steel.

Third, debts of Reserve Mining are guaranteed by Armco and Republic Steel.

Fourth, the equitable ownership in the facilities of Reserve is in Republic and Armco Steel.

Reserve operates as a "cost company" for Federal income tax purposes. This means that the costs of operations incurred by Reserve Mining are borne in fact by Armco and Republic Steel. Those latter two companies reimburse Reserve Mining for the costs incurred in connection with its operations. To the extent that current operations do not require immediate outlays, Armco and Republic are not required to reimburse Reserve in full for such items. They also agree to provide essential funds for debt retirement. For Federal income tax purposes this means that Reserve's operating costs are deducted on the tax returns of the two parent companies, Armco and Republic, and that the parent companies are entitled to any percentage depletion deductions available under the Internal Revenue Code.

Those findings mean in effect that Reserve Mining is economically a part of the Armco and Republic Steel companies. It is not a free-standing company and as such it does not have revenues in the usual sense of the term.

In order to get at economic feasibility of adding pollution control facilities, it is essential to make certainassumptions which would, in effect, place the company on a free-standing basis. The assumptions that I made and which the Reserve officials made in connection with their calculations are essentially those that follow. You must keep them in mind when we consider some of the figures relating to Reserve Mining's operations.

First Assumption: Shipments of ore are and will be made at published market prices. You can recognize that Reserve is shipping ore at cost; so this assumption is not in accordance with the current realities. However, in order to get at economic feasibility we must make an assumption as to a price that would be obtainable in the economic market place.

Dr. Glenn Berryman

Second Assumption: Costs, prices and production volumes are going to remain roughly at the 1967-1969 average levels.

Third Assumption: This relates to the pollution control facilities that might be added. I referred earlier to an engineering progress report. There were 19 alternative proposals listed therein. One of these proposals appeared to me to satisfy Pollution Control Agency standards and it involved the transporting of tailings from the Reserve processing facility back to the general area of the mine. This is known as Proposal Number 2 and I will refer to it hereafter as that. This is a relatively expensive proposal, next to the most expensive one in the engineering Task Force Report referred to. It involved capital costs of approximately $74,000,000 and annual operating costs, including interest on borrowings and depreciation of facilities, in the amount of approximately $12.5 million. I have accepted these figures without further verification.

Fourth Assumption: The full capital cost would be borrowed and the principal repaid over a 20-year period.

Fifth Assumption: The average life of the pollution control facilities will be 20 years.

Final Assumption: Federal income taxes are and will continue to be levied at 22 percent of the first $25,000 of taxable income and 48 percent on taxable income in excess of $25,000.

Now let's look at a few of the specific operating statistics. The company's return on investment schedule indicated that average profit per ton for the three years ended December 31 1969, amounted to $1.58.

If we compare this after tax profit with the selling price of the ore, we find a 12.1 percent return on sales. This is a fairly substantial figure by most standards. For the same period, Republic Steel, one of the controlling companies, had a 5.6 percent return on sales.

You will recall we made some assumptions with respect to possible installation of pollution control facilities. If those facilities, at the cost previously stated, had been installed on or about January 1, 1967, we would, on a pro forma basis, expect the profit per ton to have been approximately 63 cents. This is a considerable decline, to be sure, but profit as a percentage of sales would have been close to a 5 percent rate.

Let's look at an alternate approach to getting at profitability--the rate of return on total assets. This was approximately 7 percent for the three years ended December 31, 1969. This is computed by using Reserve's profit figures, determined on the basis of the assumptions previously stated, and comparing same to total assets shown on the audited financial statements.

Let's take still another approach to the rate of return question. As you know, it is essential for a company to have funds available for operation. The funds provided by Armco and Republic to Reserve, less amounts not paid by Armco and Republic to Reserve for pellets, constitute what I term "net funds provided by participants." Using the profit figures presented by Reserve and dividing such by "net funds provided by participants," we note a rate of return of approximately 49 percent for that same three-year period. Assuming that pollution control facilities had been installed, an equivalent figure would have been just under 20 percent.

Dr. Glenn Berryman

Let's take still another look at the well-being of Reserve, this time on the basis of funds which would be available. This concept involves a determination of revenues on a published market price basis and deducting therefrom those costs and expenses which require current outlays plus any outlays needed for debt reduction purposes. On this basis we would have had funds available for the three years ended 12-31-69 of $2.19 per ton. Assuming that the pollution control facilities had been added on or about the 1st of January 1967, the figure would have been about $1.17 per ton.

Let's forecast funds available. Funds available in the first five years after installation of pollution control facilities, assuming that the Tax Reform Act of 1969 signed by President Nixon at the end of December of last year is in effect, would approximate $66 million. For the succeeding 15 years (the life of those facilities) funds available would approximate $165 million. The total for the 20-year period would be about $231 million. You must recognize, however, that in these figures there is no provision for adding to plant capacity or making major plant improvements. However, it does provide for payment in full of the pollution control facilities.

Let's move to another way of looking at the possibility of a required installation of pollution control facilities. The company might choose to cease operations. I made a very limited study of some of the costs that would be incurred in such a decision. Assume that such shutdown would take place on or about the end of December 1971. Mortgage bonds outstanding would then approximate $135 million. Clearly, these would have to be paid and the guarantees previously mentioned could well force Armco and Republic to make payments. Other payments could relate to a guarantee on bonds payable of Silver Bay Housing. This would require an outlay of approximately $1 million, after considering tax benefits.

Notes receivable, held by Reserve and related to housing at Silver Bay and Babbitt, might become uncollectible. This would give a tax benefit potential of about $4.6 million.

From abandonment of property the tax benefits would approximate $50 million.

Outlays, then, net of tax benefits, would approximate $82 million. This is clearly a tentative, very partial, incomplete figure, but it does give some indication of the magnitude of outlays that would be required if Reserve's facilities were to be abandoned. It doesn't include, for example, direct shutdown costs, and certain employee-related costs, such as separation pay, costs of transferring employees to other plants, etc. Nor does it include any realization from sales of properties or benefits from moving equipment to other sites.

It appears to me, on the basis of the analyses made and the figures which have been cited, that this company could continue as an economically viable unit with the addition of pollution control facilities of the type suggested in Proposal Number 2. You must, of course, keep in mind all of the assumptions that were noted earlier when you evaluate this statement. Let me review for just a moment some of the key items.

First, Reserve Mining is a component, a part, of the Armco Steel and Republic Steel companies.

Second, if these facilities were added, profits would be reduced significantly for the company, though would still be substantial.

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It appears to me, on the basis of the analyses made and the figures which have been cited, that this company could continue as an economically viable unit with the addition of pollution control facilities of the type suggested in Proposal Number 2. You must, of course, keep in mind all of the assumptions that were noted earlier when you evaluate this statement. Let me review for just a moment some of the key items.

First, Reserve Mining is a component, a part, of the Armco Steel and Republic Steel companies.

Second, if these facilities were added, profits would be reduced significantly for the company, though would still be substantial.

Return on "net funds provided by participants" after Federal income taxes would be just below the 20 percent level then.

Third, funds available after the installation of pollution control facilities would be $1.17 per ton of pellets and this is based upon the 3-years ended 12-31-69.

Fourth, funds available for the 20 years after installation of pollution control facilities would total approximately $230 million, subject to payments needed for improvements, etc.

In closing, I must emphasize the assumptions that were a part of this analysis. The company in fact is a "cost company" and costs are treated as a part of the parent companies' costs. But the assumptions were essential to get at whether or not the company, as a free standing unit, could or could not continue on an economically viable basis if the installation of pollution control facilities were required. I believe they could continue to operate and I believe the assumptions are reasonable in the circumstances.

Thank you.

MR. STEIN: Thank you.

Are there any comments or questions?

If not, thank you very much, sir.